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June 30, 2006

VIA US MAIL

Mr. Femi Akindele  
Remediation Project Manager  
USEPA Region IV  
Atlanta Federal Center  
61 Forsyth Street S.W.  
Atlanta, GA 30303-8960

RE: INITIAL OPERATION AND PERFORMANCE MEMORANDUM  
Reconstructed Main Plant Area Remediation System  
Carrier Air Conditioning Superfund Site, 97 South Byhalia Road, Collierville, Tennessee  
EPA ID: TND04406222  
XDD Project No. 73271

Dear Mr. Akindele:

On behalf of Carrier Air Conditioning and United Technologies Corporation, Xpert Design and Diagnostics, LLC is submitting a hardcopy and a compact disc version of the Initial Operation and Performance Memorandum for the reconstructed Main Plant Area (MPA) remediation system at the Carrier Air Conditioning Superfund Site in Collierville, Tennessee. In accordance with the "Completion Report - Reconstruction of Main Plant Area Remedial System", dated December 16, 2005, the reconstructed MPA remediation system's initial operation and performance results have been included in this memorandum and are being submitted to the United States Environmental Protection Agency (USEPA). This memorandum covers the operational period from the reconstructed MPA remediation system's start-up in December 2005 through the end of March, 2006. This memorandum also presents the activities/plans associated with the long-term operation, maintenance, and monitoring of the reconstructed MPA remediation system.

Subsequent operation and performance results of the reconstructed MPA remediation system and other site activities will be documented in the progress reports to be submitted to the USEPA on an annual basis, in accordance with the "2004 EPA Five-Year Review Report", dated June 27, 2005.

Please contact me if you have any questions regarding this memorandum.

Sincerely,

Bruce L. Cliff, P.E.  
Sr. Project Manager  
Xpert Design and Diagnostics, LLC

enclosure

copy: Bryan Kielbania – UTC  
Lori Goetz – EnSafe  
Mark Allen - SAS  
Jaime Woods - TDEC

**INITIAL OPERATION AND  
PERFORMANCE MEMORANDUM  
(DECEMBER 2005 THROUGH MARCH 2006)**

**RECONSTRUCTED MAIN PLANT AREA  
REMEDIATION SYSTEM**

Carrier Air Conditioning Superfund Site  
Collierville, Tennessee  
EPA ID: TND04406222

*Prepared For:*

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JUNE 30, 2006



# INITIAL OPERATION AND PERFORMANCE MEMORANDUM

## RECONSTRUCTED MPA REMEDIATION SYSTEM

Carrier Air Conditioning Site – Collierville, TN

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## 1.0 INTRODUCTION

On behalf of Carrier Air Conditioning (Carrier) and United Technologies Corporation (UTC), Xpert Design and Diagnostics, LLC (XDD) has prepared the following memorandum on the initial operation and performance of the reconstructed Main Plant Area (MPA) remediation system at the Carrier Superfund Site located at 97 South Byhalia Road in Collierville, Tennessee (Site).

The operation of the reconstructed MPA remediation system was started in December 2005. The activities associated with the remediation system's fabrication, construction/installation, start-up/shake-down, and flow optimization were detailed in the "Completion Report - Reconstruction of Main Plant Area Remedial System", dated December 16, 2005. In accordance with the Completion Report, the reconstructed MPA remediation system's initial operation and performance results have been included in this memorandum and are being submitted to the United States Environmental Protection Agency (USEPA). This memorandum covers the operational period from the reconstructed MPA remediation system's start-up (December 2005) through the end of March 2006. This memorandum also presents the activities/plans associated with the long-term operation, maintenance, and monitoring (OM&M) of the reconstructed MPA remediation system. Subsequent operation and performance results of the reconstructed MPA remediation system and other site activities will be documented in the progress reports to be submitted to the USEPA on an annual basis in accordance with the "2004 EPA Five-Year Review Report", dated June 27, 2005.

## 2.0 BACKGROUND

The soil and groundwater at the MPA have been impacted with chlorinated volatile organic compounds (VOCs), primarily trichloroethylene (TCE) and its daughter products cis-dichloroethylene (cis-DCE) and vinyl chloride. Previously, a soil vapor extraction (SVE) system was in operation at the MPA. Due to the Carrier plant expansion, the original MPA SVE system was dismantled and the associated vapor extraction wells were abandoned in August 2004. The MPA remediation system has since been reconstructed and activated and consists of a SVE system and a sub-slab ventilation (SSV) system. The reconstructed MPA SVE well layout is presented in Figure 1. The MPA SSV system layout is presented in Figure 2. The MPA geologic information is presented in Figure 3.

## 3.0 SYSTEM START-UP AND OPERATION

The reconstructed MPA SVE system's initial start-up procedures began on December 1, 2005. The MPA SVE system was fully activated on December 6, 2005 after the initial start-up and flow optimization procedures were completed. At activation, the SVE system was configured to operate on approximately half of the total wells which produced the greatest chlorinated VOC vapor concentrations (a total of 54 SVE wells including: 25 Shallow, 27 Deep, and two Deep Sand wells), in accordance with the "Scope of Work (SOW) – Reconstruction of Main Plant Area Remedial System", dated August 18, 2004. The system has been operating on the same 54



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wells throughout the reporting period. These 54 wells are identified in Figure 1. The SSV activation was performed on December 8, 2005 utilizing the three SSV system legs (Legs A, B, and C). Each of the three SSV system legs have been operational throughout the reporting period.

The chronology of the MPA SVE and SSV systems start-up and operation from December 2005 through March 2006 is presented in Table 1. Both the MPA SVE and the SSV systems operated continuously since activation through April 4, 2006 with the exception of few temporary shut downs pending repairs and/or vapor-phase granular activated carbon (GAC) change-outs, as shown in Table 1.

#### **4.0 DESCRIPTION OF SYSTEM OM&M ACTIVITIES/PLANS**

The activities/plans associated with the long-term OM&M of the MPA remediation systems are briefly discussed in the following sections of this memorandum.

##### **4.1 GENERAL OPERATION, MAINTENANCE, AND MONITORING**

General OM&M (i.e., manual measurements of vacuum/pressure readings, flow rates, and temperature measurements) is performed to assure the proper operation of the MPA SVE system and to avoid as much as possible any system down-times. Initially, general OM&M routine site-checks were conducted on a weekly basis which were reduced to a semi-monthly basis, then to a monthly basis as necessary. The operational status of the system is also monitored remotely via a telemetry system on a routine basis to assure the system is operating between site inspections.

##### **4.2 COMPLIANCE SAMPLING AND MONITORING**

Compliance sampling and monitoring of the MPA SVE system is performed throughout system operation to confirm compliance with the air emission discharge permit (Title V Permit No. 00083-01TV with the Memphis and Shelby County Health Department [M&SCHD] Air Pollution Control District) and the water discharge permit (Permit No. 90-001-A with the Town of Collierville, Public Services Department). Air emissions are periodically sampled during routine site checks using a field photoionization detector (PID) at the inlet of the SVE blowers, and before, between, and after the vapor-phase GAC units for screening purposes to assess performance of GAC control efficiency and to help assure that the VOC emissions are within the allowable range according to the air discharge permit. In addition, vapor samples are collected before, between, and after the vapor-phase GAC units for laboratory analysis for VOCs per EPA Method TO-15 once a month to confirm compliance with the air discharge permit. Water samples (i.e., condensate water from the air moisture separators) are collected before, between, and after the liquid-phase GAC units on a weekly basis and analyzed for the required parameters in accordance with the water discharge permit.

##### **4.3 PERFORMANCE MONITORING AND OPTIMIZATION**

During operation of the MPA SVE system, performance monitoring is conducted to evaluate:



1. the overall contaminant mass removed by the system,
2. system optimization strategies to maximize mass removal and system efficiency, and
3. overall remedial progress.

The following performance monitoring is implemented at the site.

#### **4.3.1 System Performance Sampling and Monitoring**

The total VOCs are measured at the inlet of each MPA SVE system (Shallow and Deep SVE systems) and at the combined system inlet using a PID during each routine site inspection for screening of VOCs removed by each SVE system. In addition, vapor samples are also collected at each of these locations for laboratory VOC analysis per EPA Method TO-15 to evaluate the overall performance of the system and to estimate overall VOC mass removal. System performance sampling and monitoring is conducted simultaneously with the routine site inspections, as necessary.

#### **4.3.2 Wellhead Soil Vapor Sampling and Monitoring**

The following wellhead soil vapor sampling and monitoring program is performed at the site.

##### Baseline Static and Dynamic Soil Vapor Sampling

A static baseline soil vapor sampling round was completed in October 2005, prior to start-up of the MPA SVE system, and the results were presented in the Completion Report. Dynamic baseline soil vapor sampling (i.e., sampling while the system is operational) was conducted in December 2005 as part of the flow optimization to monitor VOC removal rates at individual SVE wells. Field VOC measurements were taken at the operational SVE wellheads using a PID. The results of the baseline static and dynamic soil vapor sampling rounds act as a baseline for future well field optimization analyses and performance evaluations performed over the course of system operation.

##### Future Static and Dynamic Soil Vapor Sampling

Future dynamic soil vapor sampling events will be performed as necessary based upon system operational data. Based on the relative trends in VOC vapor concentrations at wellheads, the SVE well field will be optimized to focus airflow on those wells (or groups of wells) that exhibit the highest VOC vapor concentrations and have the highest removal rates by performing dynamic soil vapor sampling and adjusting wells accordingly to maximize VOC recovery rates. When concentration trends become asymptotic and/or concentrations drop to non-detectable levels in a group of wells or an area of the site, then static soil vapor sampling may be implemented as appropriate.

Future static soil vapor sampling events would be performed as determined based upon system operational data and dynamic soil vapor sampling results. The wellhead samples will be collected under static conditions (i.e., system turned off prior to sampling to allow equilibration of soil vapor concentrations). The trends in wellhead vapor concentrations under static



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conditions would be evaluated to determine if concentrations are remaining relatively constant or increasing (rebounding). If VOC levels in soil vapor are rebounding, the SVE well field may be optimized to focus airflow on those wells (or groups of wells) that exhibit the highest VOC concentrations and have the highest removal rates.

#### **4.3.3 SVE Well Field Optimization**

Upon review of system performance monitoring data, SVE well field optimization strategies will be recommended as necessary to ensure that system performance is maximized.

### **5.0 SYSTEM INITIAL OPERATION AND PERFORMANCE DATA**

#### **5.1 GENERAL OPERATION, MAINTENANCE, AND MONITORING DATA**

Both the MPA SVE and SSV systems operated as designed and were operational throughout the reporting period. The SVE system general operation and monitoring results (i.e., system vacuums, flow rates, etc.) from December 2005 through March 2006 are presented in Table 2 (also summarized in Table 4). The average air flow rates of the Shallow and the Deep SVE systems for the reporting period were approximately 167 and 415 standard cubic feet per minute (scfm), respectively. The combined total average air flow rate of the Shallow and Deep systems was approximately 581 scfm. The Shallow and Deep SVE systems average inlet vacuums were approximately 10.9 and 13.8 inches of mercury (Hg), respectively.

#### **5.2 COMPLIANCE SAMPLING AND MONITORING DATA**

Based upon the laboratory analytical results of the air discharge compliance sampling performed during the reporting period, the VOC vapor concentrations have been within the acceptable discharge limits according to the air discharge permit. In accordance with the air discharge permit, this data is submitted to the M&SCHD Air Pollution Control District on a semi-annual basis.

Approximately 3,250 gallons of water has been generated, treated, and discharged to the sanitary sewer system as of April 4, 2006. The analytical results have shown that all parameters have been within acceptable discharge limits. In accordance with the water discharge permit, the aforementioned information is submitted to the Town of Collierville on a quarterly basis.

#### **5.3 PERFORMANCE MONITORING DATA AND MASS REMOVAL ESTIMATE**

The system performance vapor sampling results from December 2005 through March 2006 are summarized in Table 3. The results are also presented graphically on Figure 4. The laboratory analytical results are included in Appendix A. During MPA SVE system start-up (December 6, 2005), the VOC vapor concentrations in the Shallow, Deep, and combined (total) systems influent were 92, 153, and 94 parts per million by volume (ppmv), respectively. As of April 4, 2006, the VOC vapor concentrations in the Shallow, Deep, and combined (total) systems influent have decreased to 3, 67, and 45 ppmv, respectively. The VOC vapor concentrations in the combined (total) system influent have decreased by approximately 52% since start-up.





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Based on laboratory analyses of the influent vapor samples, the total cumulative VOC mass removed by the Shallow, Deep, and combined systems is estimated to be 206 pounds (lbs), 2,362 lbs and 2,568 lbs, respectively, as of April 4, 2006. The SVE system cumulative VOC mass removal estimates and calculations are included in Table 2 and are presented graphically on Figure 5. As shown in Table 2, the overall VOC mass removal rate for the system's initial well field configuration has declined from approximately 25 lbs/day (December 6, 2005) to 14 lbs/day (April 4, 2006) during the reporting period. The VOC mass removed through the system's water stream (i.e., water generated/treated via the SVE and SSV systems) is less than 1 lb and was not incorporated in the VOC mass removal calculations.

### 6.0 SUMMARY OF MPA SVE SYSTEM PERFORMANCE

A summary of MPA SVE system performance data from December 2005 through March 2006 is presented in Table 4. The table also provides a comparison of system design performance with the actual performance. As shown in Table 4, both the Shallow and the Deep SVE systems operated at or above the design basis throughout the reporting period. The combined total average air flow rate from both the Shallow and Deep systems was approximately 581 scfm, which is higher than the design air flow rate of 350 to 490 scfm. The overall VOC mass removal rate for system initial well field configuration has declined from approximately 25 lbs/day to 14 lbs/day during the reporting period. As of April 4, 2006, the overall cumulative VOC mass removal of the SVE system was approximately 2,568 lbs.

### 7.0 RECOMMENDATIONS AND FUTURE ACTIVITIES

At this time, XDD recommends the following activities for 2006:

- Continue to operate the SVE system using the current well field configuration maintaining the balanced flow rates at the wells that are operational.
- Continue to monitor the trends in VOC vapor concentrations over time and the overall VOC mass removal rate.

As discussed previously in this memorandum, in accordance with the Scope of Work (SOW), the MPA SVE system is designed to operate initially in a cyclic manner, with utilizing approximately half of the total SVE wells. When the SVE system influent VOC vapor concentrations and the overall VOC mass removal rates are observed to be declined, the SVE well field will be reconfigured to utilize the wells that exhibit the highest VOC vapor concentrations. It is also anticipated that in later stages of system operation, as the site clean-up progresses, the SVE operation will be focused only on the wells that exhibit residual VOC vapor concentrations, which could be less than half of the total wells.



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Carrier Air Conditioning Site – Collierville, TN

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TABLES

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## TABLES

**Table 1**  
**MPA SVE and SSV Systems Start-up and Operational Chronology**  
**(December 2005 through March 2006)**

Carrier Air Conditioning Site  
Collierville, TN

Event	Activities	Date Completed
System Start-up	MPA SVE static baseline soil vapor sampling	October 27, 2005
	MPA SVE and SSV Equipment shakedown	November 30, 2005
	MPA SVE system start-up	December 6, 2005
	MPA SVE flow optimization & dynamic soil vapor sampling	December 6, 2005
	MPA SSV system start-up	December 8, 2006
System Initial Operation	1st Carbon Change-out - SVE system was temporarily shut down on January 13, 2006 to perform the first vapor-phase granular activated carbon (GAC) change-out. System was reactivated on January 18, 2006.	January 18, 2006
	2nd Carbon Change-out - System was temporarily shut down on March 8, 2006 to perform the second vapor-phase GAC change-out. System was reactivated on March 9, 2006.	March 9, 2006
	Deep SVE System Low Flow Alarm Condition - The Deep SVE system was temporarily shut down on March 14, 2006 due to a low air flow alarm condition. The flow switch was discovered to be defective. The flow switch was replaced and the system was reactivated on March 16, 2006.	March 16, 2006

Notes:

MPA - Main Plant Area

SVE - soil vapor extraction

SSV - sub-slab ventilation

For chronology of MPA SVE and SSV reconstruction related events prior to October 2005, refer to Table 1 of the "2005 Completion Report - Reconstruction of the Main Plant Area Remedial System", dated December 16, 2005.

**Table 2**  
**MPA SVE System Operation and Performance Data**  
**(December 2005 through March 2006)**  
Carrier Air Conditioning Site  
Collierville, TN

Date	Well Field Configuration	Shallow SVE System					Deep SVE System					Combined SVE System			
		Inlet Vacuum	Influent Air Flow Rate	Influent VOC Vapor Concentration <sup>[1]</sup>	VOC Mass Removal Rate	Cumulative VOC Mass Removed	Inlet Vacuum	Influent Air Flow Rate <sup>[2]</sup>	Influent VOC Vapor Concentration <sup>[1]</sup>	VOC Mass Removal Rate <sup>[3]</sup>	Cumulative VOC Mass Removed <sup>[3]</sup>	Influent Air Flow Rate	Influent VOC Vapor Concentration <sup>[1]</sup>	VOC Mass Removal Rate	Cumulative VOC Mass Removed
		(" Hg)	(scfm)	(mg/m <sup>3</sup> )	(lbs/day)	(lbs)	(" Hg)	(scfm)	(mg/m <sup>3</sup> )	(lbs/day)	(lbs)	(scfm)	(mg/m <sup>3</sup> )	(lbs/day)	(lbs)
12/6/2005	System Initial (1st) Well Field Configuration <sup>[4]</sup>	13	150	421	6	60	14	455	784	20	84	605	466	25	143
1/4/2006		12.9	150	135	2	169	14	400	960	28	776	550	605	30	944
1/18/2006		12	155	10	0.1	178	13	530	682	26	1,018	685	420	26	1,195
2/6/2006		12	160	47	1	185	14	421	766	23	1,484	581	459	24	1,669
2/14/2006		11	170	-	-	-	14	411	-	-	-	581	329	17	1,834
2/21/2006		10	175	-	-	-	14	406	-	-	-	581	384	20	1,964
3/1/2006		9.5	180	-	-	-	14	258	-	-	-	438	371	15	2,103
3/9/2006		8.5	180	17	0.3	200	13	258	468	13	1,999	438	326	13	2,199
3/21/2006		9	185	-	-	-	13.5	454	-	-	-	639	370	21	2,369
3/28/2006		9	185	-	-	-	13.5	454	-	-	-	639	186	11	2,481
4/4/2006		9	180	15	0.2	206	14	459	365	14	2,362	639	245	14	2,568

Notes:

MPA - Main Plant Area

°F - Degrees Fahrenheit

" Hg - vacuum in inches of mercury

mg/m<sup>3</sup> - milligram per cubic meter

scfm - standard cubic feet per minute

SVE - soil vapor extraction

lbs - pounds

VOCs - volatile organic compounds

- not measured or not calculated

<sup>[1]</sup> The VOC vapor concentrations are calculated based on all the chemicals detected in the laboratory analyses (EPA Method TO-15).

<sup>[2]</sup> The Deep SVE system influent air flow rates are estimated values (not the actual readings/measurements) and are calculated based upon the combined (total) and the Shallow SVE influent air flow rates.

<sup>[3]</sup> VOC mass removal rates/cumulative VOC mass removed for the Deep SVE system are calculated based upon the mass removal rates/cumulative VOC mass removed of the combined (total) and Shallow SVE systems.

<sup>[4]</sup> Refer to Figure 1 for the system initial well field configuration.

Approximate readings due to malfunctioning of flow meter (data assumed from previous measurements).

VOC mass removed between November 30, 2005 and December 6, 2005 is estimated to be approximately 143 lbs.

**Table 3**  
**MPA SVE System Performance Sampling Results**  
**(December 2005 through March 2006)**  
Carrier Air Conditioning Site  
Collierville, TN

Vapor Sampling Location	Sample Date	Selected Site COCs Vapor Concentrations					VOC Vapor Concentrations (total) <sup>[1]</sup>		
		cis-1,2-Dichloroethene	Tetrachloroethene	trans-1,2-Dichloroethene	Trichloroethene	Vinyl Chloride			
		(ppbv)					(ppbv)	(ppmv)	(mg/m3)
Shallow SVE Influent	12/6/2005	29,000	ND	470	53,000	1,400	92,170	92	421
	1/4/2006	6,300	ND	ND	20,000	100	26,400	26	135
	1/18/2006	560	ND	ND	1,500	ND	2,060	2	10
	2/6/2006	2,800	ND	34	6,700	73	9,607	10	47
	3/9/2006	930	ND	17	2,400	61	3,421	3	17
	4/4/2006	990	ND	13	2,100	42	3,145	3	15
Deep SVE Influent	12/6/2005	14,000	ND	ND	130,000	520	153,030	153	784
	1/4/2006	5,800	ND	ND	170,000	ND	182,200	182	960
	1/18/2006	4,400	ND	ND	120,000	ND	126,500	127	682
	2/6/2006	4,000	ND	ND	140,000	ND	144,000	144	766
	3/9/2006	1,900	ND	ND	86,000	ND	87,900	88	468
	4/4/2006	1,300	ND	ND	66,000	ND	67,300	67	365
SVE Combined Influent	12/6/2005	12,000	ND	ND	75,000	430	94,440	94	466
	1/4/2006	5,200	ND	ND	110,000	ND	120,100	120	605
	1/18/2006	3,900	ND	ND	74,000	ND	79,700	80	420
	2/6/2006	3,000	ND	ND	82,000	ND	87,800	88	459
	2/14/2006	2,300	ND	ND	60,000	ND	62,300	62	329
	2/21/2006	2,000	ND	ND	69,000	ND	73,500	74	384
	3/1/2006	1,900	450	ND	65,000	ND	70,500	71	371
	3/9/2006	1,600	ND	ND	60,000	ND	61,600	62	326
	3/21/2006	1,700	ND	ND	63,000	ND	71,490	71	370
	3/28/2006	760	ND	ND	32,000	ND	36,460	36	186
	4/4/2006	1,100	ND	ND	44,000	ND	45,100	45	245

Notes:

MPA - Main Plant Area

COCs - chemicals of concerns

ND - non detect

VOCs - volatile organic compounds

ppbv - parts per billion by volume

ppmv - parts per million by volume

mg/m3 - milligram per cubic meter

<sup>[1]</sup> The VOC vapor concentrations (total) are calculated based on all the chemicals detected in the laboratory analyses (EPA Method TO-15)

**Table 4**  
**MPA SVE System Performance Summary**  
**(December 2005 through March 2006)**

Carrier Air Conditioning Site  
Collierville, TN

System	Performance Parameter	Design Basis	Actual Performance
<b>Shallow SVE System</b>	Total No. of Wells Operating	~ 21 wells	25 wells
	Total Air Flow Rate	~ 85 - 125 scfm	167 scfm (average) <sup>[1]</sup>
	Total Vacuum (at Blower Inlet)	~ 10 - 13 "Hg	10.9 "Hg (average) <sup>[1]</sup>
	Influent VOC Vapor Concentration <sup>[2]</sup>	NS	92 ppmv (12-06-05) 3 ppmv (4-04-06)
	VOC Mass Removal Rate	NS	6 lbs/day (12-06-05) 0.2 lbs/day (4-04-06)
	Cumulative VOC Mass Removed	NS	206 lbs (as of 4-04-06)
<b>Deep and Deep Sand SVE System</b>	Total No. of Wells Operating	~ 26 wells (~ 24 Deep wells and 2 Deep Sand wells)	29 wells (27 Deep wells and 2 Deep Sand wells)
	Total Air Flow Rate	~ 265 - 365 scfm	415 scfm (average) <sup>[1]</sup>
	Total Vacuum (at Blower Inlet)	~ 10 - 14 "Hg	13.8 "Hg (average) <sup>[1]</sup>
	Influent VOC Vapor Concentration <sup>[2]</sup>	NS	153 ppmv (12-06-05) 67 ppmv (4-04-06)
	VOC Mass Removal Rate	NS	20 lbs/day (12-06-05) 14 lbs/day (4-04-06)
	Cumulative VOC Mass Removed	NS	2,362 lbs (as of 4-04-06)
<b>Combined (Total)</b>	Total No. of Wells Operating	~ 47 wells	54 wells
	Total Air Flow Rate	~ 350 - 490 scfm	581 scfm (average) <sup>[1]</sup>
	Influent VOC Vapor Concentration <sup>[2]</sup>	~ 20 - 120 ppmv	94 ppmv (12-06-05) 45 ppmv (4-04-06)
	VOC Mass Removal Rate	~ 5 to 30 lbs/day <sup>[3]</sup>	25 lbs/day (12-06-05) 14 lbs/day (4-04-06)
	Cumulative VOC Mass Removed	NS	<b>2,568 lbs (as of 4-04-06)</b>

Notes:

SVE - soil vapor extraction

"Hg - inches of mercury

scfm - standard cubic feet per minute

ppmv - parts per million by volume

lbs - pounds

MPA - Main Plant Area

VOC - volatile organic compound

NS - not specified

<sup>[1]</sup> Time weighted average of all the vacuums and air flow rates measured from December 2005 through March 2006

<sup>[2]</sup> The VOC vapor concentrations are calculated based on all the chemicals detected in the laboratory analyses (EPA Method TO-15).

<sup>[3]</sup> The estimated VOC mass removal rates are based on the SVE well flow testing performed in April 2005.



# INITIAL OPERATION AND PERFORMANCE MEMORANDUM

## RECONSTRUCTED MPA REMEDIATION SYSTEM

Carrier Air Conditioning Site – Collierville, TN

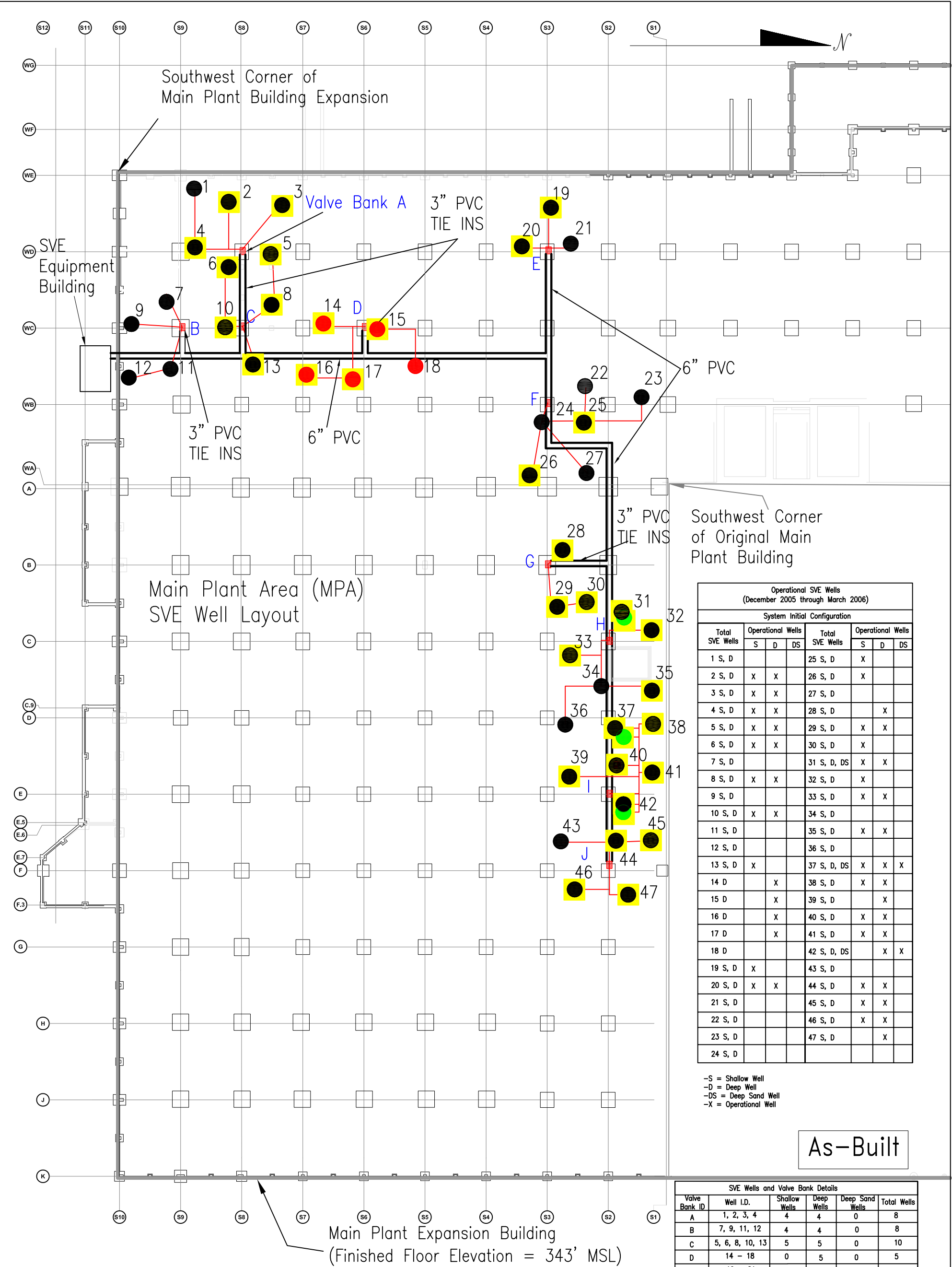
XDD Project No. 73271

June 30, 2006

FIGURES

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## FIGURES



Operational SVE Wells (December 2005 through March 2006)							
System Initial Configuration							
Total SVE Wells	Operational Wells			Total SVE Wells	Operational Wells		
	S	D	DS		S	D	DS
1 S, D				25 S, D	X		
2 S, D	X	X		26 S, D	X		
3 S, D	X	X		27 S, D			
4 S, D	X	X		28 S, D		X	
5 S, D	X	X		29 S, D	X	X	
6 S, D	X	X		30 S, D	X		
7 S, D				31 S, D, DS	X	X	
8 S, D	X	X		32 S, D	X		
9 S, D				33 S, D	X	X	
10 S, D	X	X		34 S, D			
11 S, D				35 S, D	X	X	
12 S, D				36 S, D			
13 S, D	X			37 S, D, DS	X	X	X
14 D		X		38 S, D	X	X	
15 D		X		39 S, D		X	
16 D		X		40 S, D	X	X	
17 D		X		41 S, D	X	X	
18 D				42 S, D, DS		X	X
19 S, D	X			43 S, D			
20 S, D	X	X		44 S, D	X	X	
21 S, D				45 S, D	X	X	
22 S, D				46 S, D	X	X	
23 S, D				47 S, D		X	
24 S, D							

-S = Shallow Well  
-D = Deep Well  
-DS = Deep Sand Well  
-X = Operational Well

As-Built

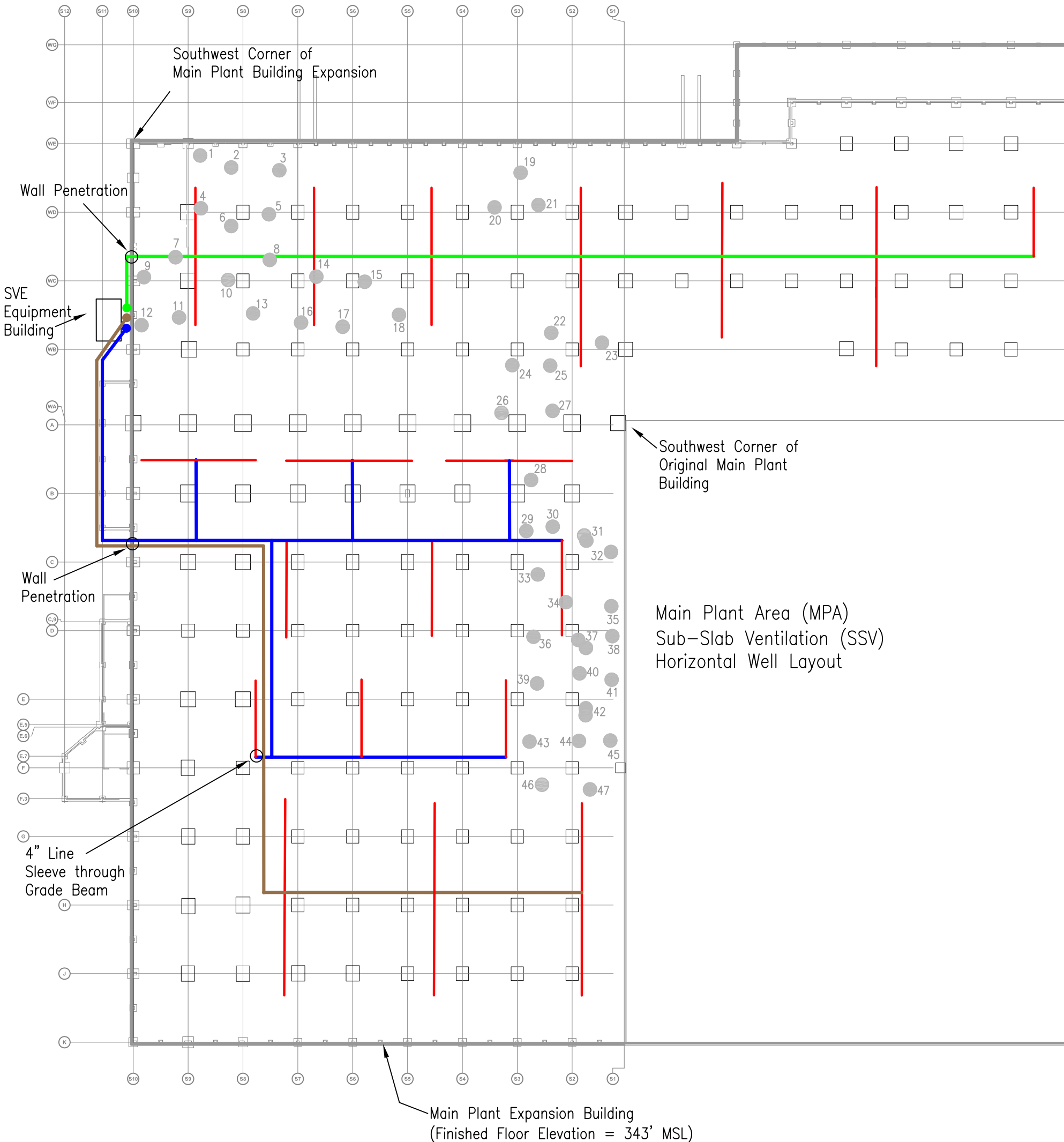
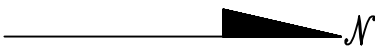
SVE Wells and Valve Bank Details					
Valve Bank ID	Well I.D.	Shallow Wells	Deep Wells	Deep Sand Wells	Total Wells
A	1, 2, 3, 4	4	4	0	8
B	7, 9, 11, 12	4	4	0	8
C	5, 6, 8, 10, 13	5	5	0	10
D	14 - 18	0	5	0	5
E	19 - 21	3	3	0	6
F	22 - 27	6	6	0	12
G	28 - 30	3	3	0	6
H	31 - 36	6	6	1	13
I	37 - 42	6	6	2	14
J	43 - 47	5	5	0	10

-Shallow Well: Screen Interval = 6.5-11.5' BFF  
-Deep Well: Screen Interval = 16.5-26.5' BFF  
-Deep Sand Well: Screen Interval = 33-43' BFF



Scale: AS SHOWN	Title:	
Date: March 31, 2006	MPA SVE Well Layout	
Project No.: 73271	UTC - Carrier Air Conditioning Collierville, TN	
Client: UTC - COLLIERVILLE		
Drawn By: MAW		
Checked By: OU		
Proj. Mgmt. Approval:	FIGURE: 1	rev. A



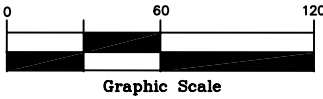


LEGEND

- Soil Vapor Extraction (SVE) Wells
- Subslab Ventilation (SSV) Branch Line/Leg A (Below grade, 4" ID PVC, SCH 80)
- SSV Branch Line/Leg B (Below grade, 4" ID PVC, SCH 80)
- SSV Branch Line/Leg C (Below grade, 4" ID PVC, SCH 80)
- SSV Horizontal Well Screen (2" ID PVC, SCH 40, 100' On-Center, 50' ROI, 50' L, 20-Slot)

NOTES

- SVE Borings are spaced approximately 40' on center (20 feet ROI).
- "MSL" = feet above mean sea level
- SVE well locations are surveyed.
- ROI = radius of influence



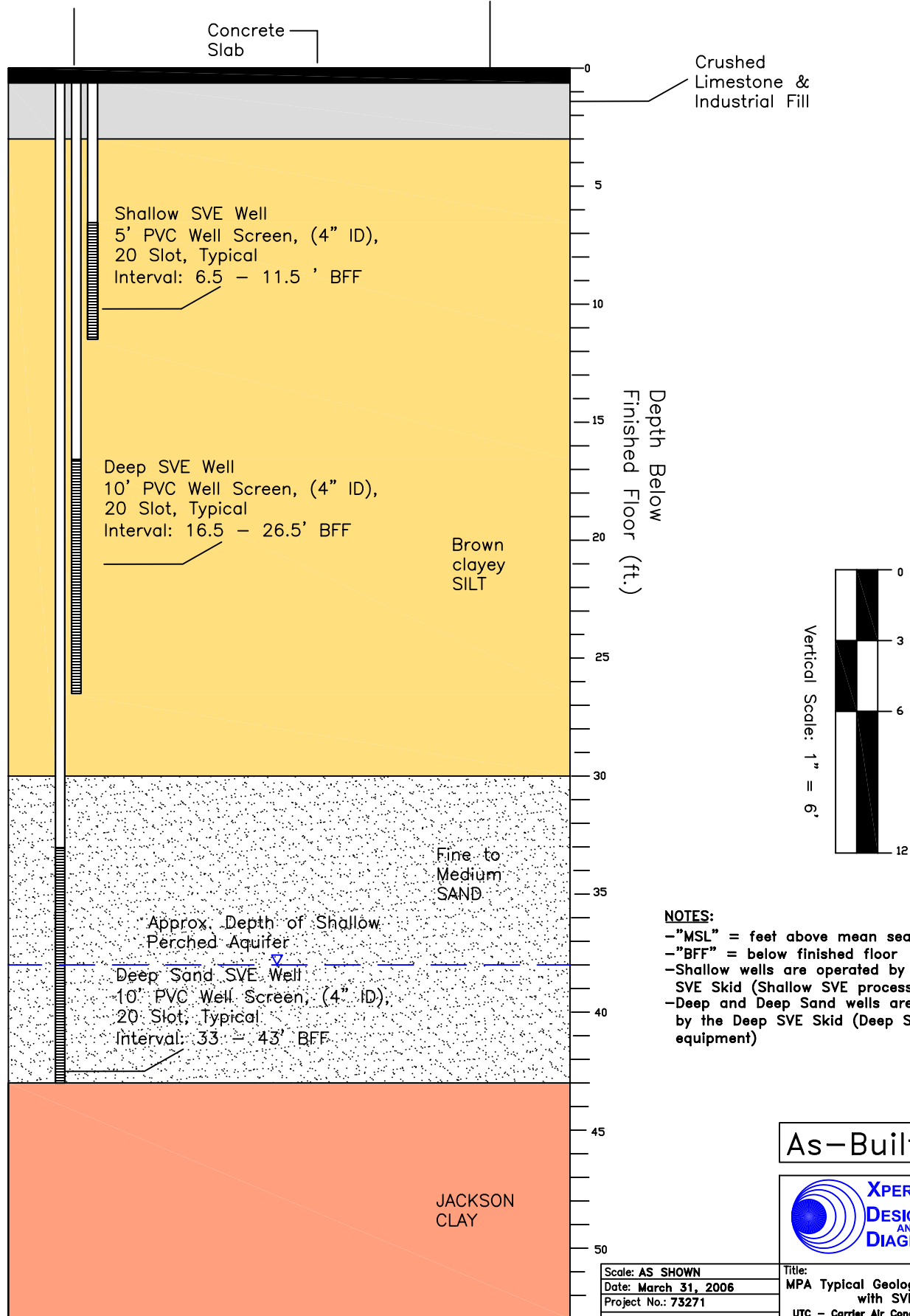
As-Built



Scale: AS SHOWN	Title: MPA SSV Horizontal Well Layout	
Date: March 31, 2006	UTC - Carrier Air Conditioning Collerville, TN	
Project No.: 73271	FIGURE: 2	
Client: UTC - COLLIERVILLE	rev. A	
Drawn By: MAW		
Checked By: OU		
Proj. Mgmt. Approval:		

Multilevel SVE Wells (Typical)  
(Main Plant Area)

Finished Floor Surface (Elevation = 343'  
MSL, Depth = 0' BFF)



**NOTES:**

- "MSL" = feet above mean sea level
- "BFF" = below finished floor
- Shallow wells are operated by the Shallow SVE Skid (Shallow SVE process equipment)
- Deep and Deep Sand wells are operated by the Deep SVE Skid (Deep SVE process equipment)

As-Built

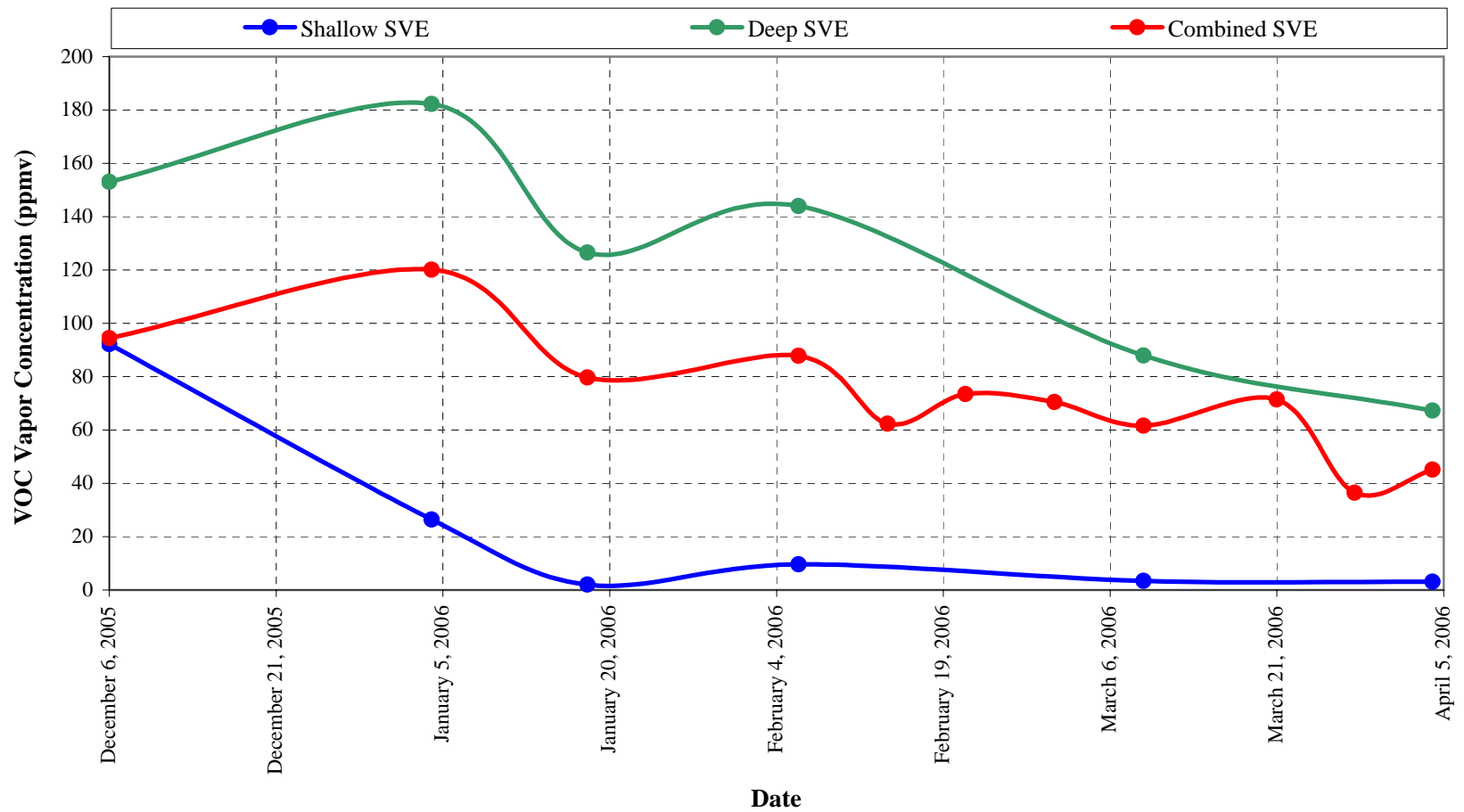


Scale: AS SHOWN  
Date: March 31, 2006  
Project No.: 73271  
Client: UTC - COLLIERVILLE  
Drawn By: MAW  
Checked By: OU  
Proj. Mgmt. Approval:

Title:  
MPA Typical Geologic Cross-Section  
with SVE Wells  
UTC - Carrier Air Conditioning Collierville, TN

FIGURE: 3  
rev. A

**Figure 4**  
**MPA SVE System Influent VOC Vapor Concentrations**  
**(December 2005 through March 2006)**  
 Carrier Air Conditioning Site  
 Collierville, TN



Notes:

MPA - Main Plant Area

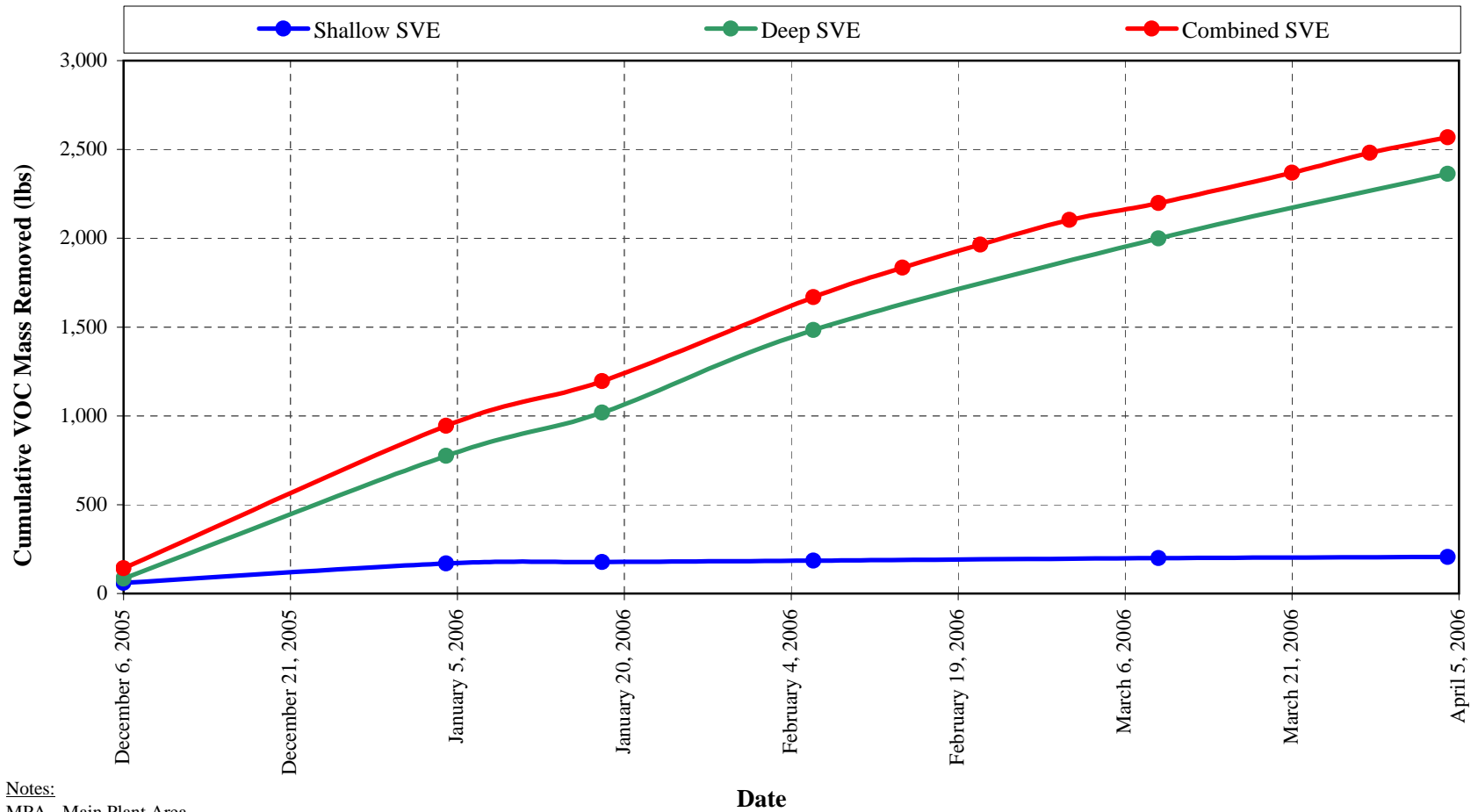
VOC - volatile organic compounds

ppmv - parts per million by volume

SVE - soil vapor extraction

The VOC vapor concentrations are calculated based on all the chemicals detected in the laboratory analyses (EPA Method TO-15).

**Figure 5**  
**MPA SVE System Cumulative VOC Mass Removal**  
**(December 2005 through March 2006)**  
 Carrier Air Conditioning Site  
 Collierville, TN



Notes:

MPA - Main Plant Area

SVE - soil vapor extraction

VOCs - volatile organic compounds

lbs - pounds

Refer to Table 2 for the VOC mass removal calculations and assumptions.



# INITIAL OPERATION AND PERFORMANCE MEMORANDUM

## RECONSTRUCTED MPA REMEDIATION SYSTEM

Carrier Air Conditioning Site – Collierville, TN

XDD Project No. 73271

June 30, 2006

APPENDICES

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## APPENDICES



INITIAL OPERATION AND PERFORMANCE MEMORANDUM

RECONSTRUCTED MPA REMEDIATION SYSTEM

Carrier Air Conditioning Site – Collierville, TN

XDD Project No. 73271

June 30, 2006

APPENDICES

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**APPENDIX A**

**MPA SVE PERFORMANCE SAMPLING  
LABORATORY ANALYTICAL RESULTS**

# TestAmerica

ANALYTICAL TESTING CORPORATION

RECEIVED DEC 16 2005

2860 Foster Creighton Road Nashville, TN 37204 \* 800-765-0980 \* Fax 615-726-3404

December 08, 2005

Client: SAS Environmental Inc. (3403)  
1270 S. Cleveland-Massillon Building A  
Akron, OH 44321  
Attn: Mark V. Allen

Work Order: NOL0745  
Project Name: UT Collierville  
Project Nbr: 031091  
Date Received: 12/07/05

FILE

73271 - Technical

MPA SVE Startup Analytical

Data

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
Deep SVE Influent	NOL0745-01	12/06/05 15:52
Shallow SVE Influent	NOL0745-02	12/06/05 15:47
Combined SVE Influent	NOL0745-03	12/06/05 15:55
Intermediate SVE Effluent	NOL0745-04	12/06/05 15:34
System SVE Effluent	NOL0745-05	12/06/05 15:31

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

This material is intended only for the use of the individual(s) or entity to whom it is addressed, and may contain information that is privileged and confidential. If you are not the intended recipient, or the employee or agent responsible for delivering this material to the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this material is strictly prohibited. If you have received this material in error, please notify us immediately at 615-726-0177.

Tennessee Certification Number: 02008

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

Report Approved By:

*Roxanne L. Connor*

Roxanne Connor

Senior Project Manager

# TestAmerica

ANALYTICAL TESTING CORPORATION

2960 Foster Creighton Road Nashville, TN 37204 \* 800-765-0980 \* Fax 615-726-3404

Client SAS Environmental Inc. (3403)  
1270 S.Cleveland-Massillon Building A  
Akron, OH 44321  
Attn Mark V. Allen

Work Order: NOL0745  
Project Name: UT Collierville  
Project Number: 031091  
Received: 12/07/05 13:21

## ANALYTICAL REPORT

anlyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Analyst	Batch
--------	--------	------	-------	-----	--------------------	-----------------------	--------	---------	-------

**Sample ID: NOL0745-01 (Deep SVE Influent - Air) Sampled: 12/06/05 15:52**

Modified TO-15

See Attached Report

**Sample ID: NOL0745-02 (Shallow SVE Influent - Air) Sampled: 12/06/05 15:47**

Modified TO-15

See Attached Report

**Sample ID: NOL0745-03 (Combined SVE Influent - Air) Sampled: 12/06/05 15:55**

Modified TO-15

See Attached Report

**Sample ID: NOL0745-04 (Intermediate SVE Effluent - Air) Sampled: 12/06/05 15:34**

Modified TO-15

See Attached Report

**Sample ID: NOL0745-05 (System SVE Effluent - Air) Sampled: 12/06/05 15:31**

Modified TO-15

See Attached Report





ANALYTICAL TESTING CORPORATION

2960 Foster Creighton Road Nashville, TN 37204 \* 800-765-0980 \* Fax 615-726-3404

Client SAS Environmental Inc. (3403)  
1270 S.Cleveland-Massillon Building A  
Akron, OH 44321  
Attn Mark V. Allen

Work Order: NOL0745  
Project Name: UT Collierville  
Project Number: 031091  
Received: 12/07/05 13:21

### CERTIFICATION SUMMARY

TestAmerica Analytical - Nashville

Method	Matrix	AIHA	Nelac	Tennessee
subcontract	Air			

NOLL 5

To assist us in using the proper analytical methods,  
is this work being conducted for regulatory purposes?  
**Compliance Monitoring**

**TestAmerica**  
ANALYTICAL TESTING CORPORATION

**Nashville Division  
2960 Foster Creighton  
Nashville, TN 37204**

**Phone: 615-726-0177**  
**Fax: 615-726-3404**

12/16/05 17:00

ANALYTICAL TESTING CORPORATION

SAS ENVIRONMENTAL INC.

Client #: 3472

**Client Name**

Address: 1270 E. CLEVELAND-WHEATLAWN A

AKGK 44321

City/State/Zip Code:

Project Manager: Mark V. Allen

Telephone Number: 338-556-1546

Fax: 8,13386667443

**Sampler Name:** (Print Name)

Sampler Signature: \_\_\_\_\_

Project Name: UT Collaborative / Comm 1 cv

Project #: 03109

Site/Location ID: Collierville State: Tn

Report To: Alvin Allen

Invoice To: S&S Environmental

Quote #: \_\_\_\_\_ PO#: \_\_\_\_\_

TAT Standard	Date Needed:	Fax Results:	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix SL - Sludge DW - Drinking Water GW - Groundwater S - Solid/Solid WW - Wastewater Specify Other	Preservation & # of Containers	Analyze For:	QC Deliverables ____ None ____ Level 2 (Batch QC) ____ Level 3 ____ Level 4 Other: _____
SAMPLE ID										REMARKS
Deep SVE Influent	12-06-05	1532	G				Air		NOL 0745-01	24 Hr TAT
Shallow SVE Influent	12-06-05	1547	G				Air		-02	24 Hr TAT
Compressed SVE Influent	12-06-05	1558	G				Air		-03	24 Hr TAT
Intermediate SVE Effluent	12/06/05	1634	G				Air		-04	24 Hr TAT
System SVE Effluent	12/06/05	1651	G				Air		-05	24 Hr TAT
									CUSTOMER SEAL INTACT?	
									Y-N KENT TEMP	

**Special Instructions:**

E-Mail - jfd121@aol.com

**LABORATORY COMMENTS:**

Init Lab Temp:

Rec Lab Temp:

Custody Seals: Y N N/A  
Bottles Supplied by Test America: Y N

**Method of Shipment:**

Relinquished By: <i>[Signature]</i>	Date: 12.06.06	Time: 1700
-------------------------------------	----------------	------------

Received By: *Frederick*

12-06 US	1708
Date:	Time:

Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Received By: *cm.w*

Date: 12/1/95 Time: 90

Relinquished By:		Date:	Time:
------------------	--	-------	-------

Received By:	Date:	Time:
--------------	-------	-------

# TestAmerica

INCORPORATED

## Sample NonConformance/COC Revision Form

Initiated by: kthompson Phone: 330-866-1546 NC Closed ☐  
Client Name: SAS ENVIRONME Sample Range: Date Closed  
Client Contact: SDG:  
Client Account: 3403 Analyst:  
Date Created: 12/7/2005 Supervisor:  
NC #: NC Type:  
Project Name: UT Collierville Terminal Manager:  
Project Number: 031091  
Project Origin  
Regulatory :

Process: Other NC/Process: See Comment Section Below

Corrected By: Jim Jacobs

Action: Corrected action not chosen

Closed: ☒ JDJacobs

Comments: Comment added by: JDJacobs on 12/7/2005 1:26:05 PM  
Done Work Order NOL0745

\*\*\*\*\*

Please assign a work order number for this project. Samples sent direct to Air Toxics. I need this done ASAP to subcontract COC to Air Toxics. This is a quick TAT project.



NOL0745



**AIR TOXICS LTD.**

AN ENVIRONMENTAL ANALYTICAL LABORATORY

---

### **Air Toxics Ltd. Introduces the Electronic Report**

Thank you for choosing Air Toxics Ltd. To better serve our customers, we are providing your report by e-mail. This document is provided in Portable Document Format which can be viewed with Acrobat Reader by Adobe.

This electronic report includes the following:

- Work order Summary;
- Laboratory Narrative;
- Results; and
- Chain of Custody (copy).

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630

(916) 985-1000 .FAX (916) 985-1020  
Hours 8:00 A.M to 6:00 P.M. Pacific



# AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

## WORK ORDER #: 0512143

### Work Order Summary

**CLIENT:** Ms. Kenyatta Thompson  
Test America  
2960 Foster Creighton Dr.  
Nashville, TN 37204

**BILL TO:** Ms. Kenyatta Thompson  
Test America  
2960 Foster Creighton Dr.  
Nashville, TN 37204

**PHONE:** 800-765-0980

**P.O. #**

**FAX:** 615-726-3404

**PROJECT #** NOL0745

**DATE RECEIVED:** 12/07/2005

**CONTACT:** Susan Alaniz

**DATE COMPLETED:**

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC/PRES.</u>
01A	Deep SVE Influent	Modified TO-15	Tedlar Bag
02A	Shallow SVE Influent	Modified TO-15	Tedlar Bag
03A	Combined SVE Influent	Modified TO-15	Tedlar Bag
04A	Intermediate SVE Effluent	Modified TO-15	Tedlar Bag
04AA	Intermediate SVE Effluent Duplicate	Modified TO-15	Tedlar Bag
05A	System SVE Effluent	Modified TO-15	Tedlar Bag
06A	Lab Blank	Modified TO-15	NA
07A	CCV	Modified TO-15	NA
08A	LCS	Modified TO-15	NA

CERTIFIED BY:

Laboratory Director

DATE: 12/08/05

Certification numbers: AR DEQ - 03-084-0, CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004  
NY NELAP - 11291, UT NELAP - 9166389892

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,

Accreditation number: E87680, Effective date: 07/01/05, Expiration date: 06/30/06

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630  
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE**  
**Modified TO-15**  
**Test America**  
**Workorder# 0512143**

Five 1 Liter Tedlar Bag samples were received on December 07, 2005. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 0.2 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

<i>Requirement</i>	<i>TO-15</i>	<i>ATL Modifications</i>
Daily CCV	+/- 30% Difference	<= 30% Difference with two allowed out up to <=40%; flag and narrate outliers
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

**Receiving Notes**

The Chain of Custody (COC) information for samples Intermediate SVE Effluent and System SVE Effluent did not match the entries on the sample tags with regard to sample identification. The discrepancy was noted in the Sample Receipt Confirmation email/fax and the information on the COC was used to process and report the samples.

**Analytical Notes**

The reported LCS for each daily batch has been derived from more than one analytical file.

**Definition of Data Qualifying Flags**

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

# AIR TOXICS LTD.

## Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: Deep SVE Influent

Lab ID#: 0512143-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	500	520	1300	1300
Acetone	2000	2200	4800	5300
2-Propanol	2000	3200	4900	8000
Carbon Disulfide	500	1300	1600	4100
cis-1,2-Dichloroethene	500	14000	2000	58000
Tetrahydrofuran	500	560	1500	1600
1,1,1-Trichloroethane	500	590	2700	3200
Trichloroethene	500	130000	2700	700000
Toluene	500	660	1900	2500

Client Sample ID: Shallow SVE Influent

Lab ID#: 0512143-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	250	1400	640	3600
Acetone	1000	2000	2400	4700
2-Propanol	1000	2100	2400	5200
Carbon Disulfide	250	1200	780	3900
Methylene Chloride	250	310	870	1100
trans-1,2-Dichloroethene	250	470	990	1900
2-Butanone (Methyl Ethyl Ketone)	250	630	740	1900
cis-1,2-Dichloroethene	250	29000	990	110000
Tetrahydrofuran	250	500	740	1500
1,1,1-Trichloroethane	250	450	1400	2500
Cyclohexane	250	340	860	1200
Trichloroethene	250	53000	1300	280000
Toluene	250	520	940	1900
m,p-Xylene	250	250	1100	1100

Client Sample ID: Combined SVE Influent

Lab ID#: 0512143-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	250	430	640	1100
Acetone	1000	2200	2400	5200
2-Propanol	1000	1900	2400	4600
Carbon Disulfide	250	1500	780	4800
Methylene Chloride	250	280	870	990
2-Butanone (Methyl Ethyl Ketone)	250	320	740	930



**Client Sample ID: Combined SVE Influent**

**Lab ID#: 0512143-03A**

cis-1,2-Dichloroethene	250	12000	990	46000
Tetrahydrofuran	250	290	740	860
Trichloroethene	250	75000	1300	400000
Toluene	250	520	940	2000

# AIR TOXICS LTD.

Client Sample ID: Deep SVE Influent

Lab ID#: 0512143-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	1120717	Date of Collection:	12/6/05
Dil. Factor:	1000	Date of Analysis:	12/8/05 02:47 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	500	Not Detected	2500	Not Detected
Freon 114	500	Not Detected	3500	Not Detected
Chloromethane	2000	Not Detected	4100	Not Detected
Vinyl Chloride	500	520	1300	1300
1,3-Butadiene	500	Not Detected	1100	Not Detected
Bromomethane	500	Not Detected	1900	Not Detected
Chloroethane	500	Not Detected	1300	Not Detected
Freon 11	500	Not Detected	2800	Not Detected
Ethanol	2000	Not Detected	3800	Not Detected
Freon 113	500	Not Detected	3800	Not Detected
1,1-Dichloroethene	500	Not Detected	2000	Not Detected
Acetone	2000	2200	4800	5300
2-Propanol	2000	3200	4900	8000
Carbon Disulfide	500	1300	1600	4100
3-Chloropropene	2000	Not Detected	6300	Not Detected
Methylene Chloride	500	Not Detected	1700	Not Detected
Methyl tert-butyl ether	500	Not Detected	1800	Not Detected
trans-1,2-Dichloroethene	500	Not Detected	2000	Not Detected
Hexane	500	Not Detected	1800	Not Detected
1,1-Dichloroethane	500	Not Detected	2000	Not Detected
2-Butanone (Methyl Ethyl Ketone)	500	Not Detected	1500	Not Detected
cis-1,2-Dichloroethene	500	14000	2000	58000
Tetrahydrofuran	500	560	1500	1600
Chloroform	500	Not Detected	2400	Not Detected
1,1,1-Trichloroethane	500	590	2700	3200
Cyclohexane	500	Not Detected	1700	Not Detected
Carbon Tetrachloride	500	Not Detected	3100	Not Detected
2,2,4-Trimethylpentane	500	Not Detected	2300	Not Detected
Benzene	500	Not Detected	1600	Not Detected
1,2-Dichloroethane	500	Not Detected	2000	Not Detected
Heptane	500	Not Detected	2000	Not Detected
Trichloroethene	500	130000	2700	700000
1,2-Dichloropropane	500	Not Detected	2300	Not Detected
1,4-Dioxane	2000	Not Detected	7200	Not Detected
Bromodichloromethane	500	Not Detected	3400	Not Detected
cis-1,3-Dichloropropene	500	Not Detected	2300	Not Detected
4-Methyl-2-pentanone	500	Not Detected	2000	Not Detected
Toluene	500	660	1900	2500
trans-1,3-Dichloropropene	500	Not Detected	2300	Not Detected
1,1,2-Trichloroethane	500	Not Detected	2700	Not Detected
Tetrachloroethene	500	Not Detected	3400	Not Detected
2-Hexanone	2000	Not Detected	8200	Not Detected

# AIR TOXICS LTD.

Client Sample ID: Deep SVE Influent

Lab ID#: 0512143-01A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	1120717	Date of Collection:	12/6/05
Dil. Factor:	1000	Date of Analysis:	12/8/05 02:47 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Dibromochloromethane	500	Not Detected	4200	Not Detected
1,2-Dibromoethane (EDB)	500	Not Detected	3800	Not Detected
Chlorobenzene	500	Not Detected	2300	Not Detected
Ethyl Benzene	500	Not Detected	2200	Not Detected
m,p-Xylene	500	Not Detected	2200	Not Detected
o-Xylene	500	Not Detected	2200	Not Detected
Styrene	500	Not Detected	2100	Not Detected
Bromoform	500	Not Detected	5200	Not Detected
Cumene	500	Not Detected	2400	Not Detected
1,1,2,2-Tetrachloroethane	500	Not Detected	3400	Not Detected
Propylbenzene	500	Not Detected	2400	Not Detected
4-Ethyltoluene	500	Not Detected	2400	Not Detected
1,3,5-Trimethylbenzene	500	Not Detected	2400	Not Detected
1,2,4-Trimethylbenzene	500	Not Detected	2400	Not Detected
1,3-Dichlorobenzene	500	Not Detected	3000	Not Detected
1,4-Dichlorobenzene	500	Not Detected	3000	Not Detected
alpha-Chlorotoluene	500	Not Detected	2600	Not Detected
1,2-Dichlorobenzene	500	Not Detected	3000	Not Detected
1,2,4-Trichlorobenzene	2000	Not Detected	15000	Not Detected
Hexachlorobutadiene	2000	Not Detected	21000	Not Detected

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	100	70-130
4-Bromofluorobenzene	100	70-130

# AIR TOXICS LTD.

Client Sample ID: Shallow SVE Influent

Lab ID#: 0512143-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	1120715	Date of Collection:	12/6/05
Dil. Factor:	500	Date of Analysis:	12/7/05 11:05 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	250	Not Detected	1200	Not Detected
Freon 114	250	Not Detected	1700	Not Detected
Chloromethane	1000	Not Detected	2100	Not Detected
Vinyl Chloride	250	1400	640	3600
1,3-Butadiene	250	Not Detected	550	Not Detected
Bromomethane	250	Not Detected	970	Not Detected
Chloroethane	250	Not Detected	660	Not Detected
Freon 11	250	Not Detected	1400	Not Detected
Ethanol	1000	Not Detected	1900	Not Detected
Freon 113	250	Not Detected	1900	Not Detected
1,1-Dichloroethene	250	Not Detected	990	Not Detected
Acetone	1000	2000	2400	4700
2-Propanol	1000	2100	2400	5200
Carbon Disulfide	250	1200	780	3900
3-Chloropropene	1000	Not Detected	3100	Not Detected
Methylene Chloride	250	310	870	1100
Methyl tert-butyl ether	250	Not Detected	900	Not Detected
trans-1,2-Dichloroethene	250	470	990	1900
Hexane	250	Not Detected	880	Not Detected
1,1-Dichloroethane	250	Not Detected	1000	Not Detected
2-Butanone (Methyl Ethyl Ketone)	250	630	740	1900
cis-1,2-Dichloroethene	250	29000	990	110000
Tetrahydrofuran	250	500	740	1500
Chloroform	250	Not Detected	1200	Not Detected
1,1,1-Trichloroethane	250	450	1400	2500
Cyclohexane	250	340	860	1200
Carbon Tetrachloride	250	Not Detected	1600	Not Detected
2,2,4-Trimethylpentane	250	Not Detected	1200	Not Detected
Benzene	250	Not Detected	800	Not Detected
1,2-Dichloroethane	250	Not Detected	1000	Not Detected
Heptane	250	Not Detected	1000	Not Detected
Trichloroethene	250	53000	1300	280000
1,2-Dichloropropane	250	Not Detected	1200	Not Detected
1,4-Dioxane	1000	Not Detected	3600	Not Detected
Bromodichloromethane	250	Not Detected	1700	Not Detected
cis-1,3-Dichloropropene	250	Not Detected	1100	Not Detected
4-Methyl-2-pentanone	250	Not Detected	1000	Not Detected
Toluene	250	520	940	1900
trans-1,3-Dichloropropene	250	Not Detected	1100	Not Detected
1,1,2-Trichloroethane	250	Not Detected	1400	Not Detected
Tetrachloroethene	250	Not Detected	1700	Not Detected
2-Hexanone	1000	Not Detected	4100	Not Detected

# AIR TOXICS LTD.

Client Sample ID: Shallow SVE Influent

Lab ID#: 0512143-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	1120715	Date of Collection:	12/6/05
Dil. Factor:	500	Date of Analysis:	12/7/05 11:05 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Dibromochloromethane	250	Not Detected	2100	Not Detected
1,2-Dibromoethane (EDB)	250	Not Detected	1900	Not Detected
Chlorobenzene	250	Not Detected	1200	Not Detected
Ethyl Benzene	250	Not Detected	1100	Not Detected
m,p-Xylene	250	250	1100	1100
o-Xylene	250	Not Detected	1100	Not Detected
Styrene	250	Not Detected	1100	Not Detected
Bromoform	250	Not Detected	2600	Not Detected
Cumene	250	Not Detected	1200	Not Detected
1,1,2,2-Tetrachloroethane	250	Not Detected	1700	Not Detected
Propylbenzene	250	Not Detected	1200	Not Detected
4-Ethyltoluene	250	Not Detected	1200	Not Detected
1,3,5-Trimethylbenzene	250	Not Detected	1200	Not Detected
1,2,4-Trimethylbenzene	250	Not Detected	1200	Not Detected
1,3-Dichlorobenzene	250	Not Detected	1500	Not Detected
1,4-Dichlorobenzene	250	Not Detected	1500	Not Detected
alpha-Chlorotoluene	250	Not Detected	1300	Not Detected
1,2-Dichlorobenzene	250	Not Detected	1500	Not Detected
1,2,4-Trichlorobenzene	1000	Not Detected	7400	Not Detected
Hexachlorobutadiene	1000	Not Detected	11000	Not Detected

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	102	70-130
4-Bromofluorobenzene	109	70-130

# AIR TOXICS LTD.

Client Sample ID: Combined SVE Influent

Lab ID#: 0512143-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	1120713	Date of Collection:	12/6/05
Dil. Factor:	500	Date of Analysis:	12/7/05 09:01 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	250	Not Detected	1200	Not Detected
Freon 114	250	Not Detected	1700	Not Detected
Chloromethane	1000	Not Detected	2100	Not Detected
Vinyl Chloride	250	430	640	1100
1,3-Butadiene	250	Not Detected	550	Not Detected
Bromomethane	250	Not Detected	970	Not Detected
Chloroethane	250	Not Detected	660	Not Detected
Freon 11	250	Not Detected	1400	Not Detected
Ethanol	1000	Not Detected	1900	Not Detected
Freon 113	250	Not Detected	1900	Not Detected
1,1-Dichloroethene	250	Not Detected	990	Not Detected
Acetone	1000	2200	2400	5200
2-Propanol	1000	1900	2400	4600
Carbon Disulfide	250	1500	780	4800
3-Chloropropene	1000	Not Detected	3100	Not Detected
Methylene Chloride	250	280	870	990
Methyl tert-butyl ether	250	Not Detected	900	Not Detected
trans-1,2-Dichloroethene	250	Not Detected	990	Not Detected
Hexane	250	Not Detected	880	Not Detected
1,1-Dichloroethane	250	Not Detected	1000	Not Detected
2-Butanone (Methyl Ethyl Ketone)	250	320	740	930
cis-1,2-Dichloroethene	250	12000	990	46000
Tetrahydrofuran	250	290	740	860
Chloroform	250	Not Detected	1200	Not Detected
1,1,1-Trichloroethane	250	Not Detected	1400	Not Detected
Cyclohexane	250	Not Detected	860	Not Detected
Carbon Tetrachloride	250	Not Detected	1600	Not Detected
2,2,4-Trimethylpentane	250	Not Detected	1200	Not Detected
Benzene	250	Not Detected	800	Not Detected
1,2-Dichloroethane	250	Not Detected	1000	Not Detected
Heptane	250	Not Detected	1000	Not Detected
Trichloroethene	250	75000	1300	400000
1,2-Dichloropropane	250	Not Detected	1200	Not Detected
1,4-Dioxane	1000	Not Detected	3600	Not Detected
Bromodichloromethane	250	Not Detected	1700	Not Detected
cis-1,3-Dichloropropene	250	Not Detected	1100	Not Detected
4-Methyl-2-pentanone	250	Not Detected	1000	Not Detected
Toluene	250	520	940	2000
trans-1,3-Dichloropropene	250	Not Detected	1100	Not Detected
1,1,2-Trichloroethane	250	Not Detected	1400	Not Detected
Tetrachloroethene	250	Not Detected	1700	Not Detected
2-Hexanone	1000	Not Detected	4100	Not Detected

# AIR TOXICS LTD.

Client Sample ID: Combined SVE Influent

Lab ID#: 0512143-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	1126713	Date of Collection:	12/6/05
Dil. Factor:	500	Date of Analysis:	12/7/05 09:01 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Dibromochloromethane	250	Not Detected	2100	Not Detected
1,2-Dibromoethane (EDB)	250	Not Detected	1900	Not Detected
Chlorobenzene	250	Not Detected	1200	Not Detected
Ethyl Benzene	250	Not Detected	1100	Not Detected
m,p-Xylene	250	Not Detected	1100	Not Detected
o-Xylene	250	Not Detected	1100	Not Detected
Styrene	250	Not Detected	2600	Not Detected
Bromoform	250	Not Detected	1200	Not Detected
Cumene	250	Not Detected	1700	Not Detected
1,1,2,2-Tetrachloroethane	250	Not Detected	1200	Not Detected
Propylbenzene	250	Not Detected	1200	Not Detected
4-Ethyltoluene	250	Not Detected	1200	Not Detected
1,3,5-Trimethylbenzene	250	Not Detected	1200	Not Detected
1,2,4-Trimethylbenzene	250	Not Detected	1500	Not Detected
1,3-Dichlorobenzene	250	Not Detected	1500	Not Detected
1,4-Dichlorobenzene	250	Not Detected	1300	Not Detected
alpha-Chlorotoluene	250	Not Detected	1500	Not Detected
1,2-Dichlorobenzene	1000	Not Detected	7400	Not Detected
1,2,4-Trichlorobenzene	1000	Not Detected	11000	Not Detected
Hexachlorobutadiene				

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	103	70-130
4-Bromofluorobenzene	103	70-130

Client SAS Environmental Inc. (3403)  
1270 S.Cleveland-Massillon Building A  
Akron, OH 44321  
Attn Mark V. Allen

Work Order: NPA0432  
Project Name: UT Collierville  
Project Number: 031091  
Received: 01/06/06 14:54

## CERTIFICATION SUMMARY

### TestAmerica Analytical - Nashville

Method	Matrix	AIHA	Nelac	Tennessee
subcontract	Air			



**SUBCONTRACT ORDER**  
**TestAmerica Analytical - Nashville**  
**NPA0432**

**SENDING LABORATORY:**

TestAmerica Analytical - Nashville  
2960 Foster Creighton Road  
Nashville, TN 37204  
Phone: 800-765-0980  
Fax: 615-726-3404  
Project Manager: Kenyatta D. Thompson

**RECEIVING LABORATORY:**

Air Toxics LTD (11938)  
180-B Blue Ravine Road  
Folsom, CA 95630  
Phone : (800) 985-5955  
Fax: (916) 985-1020

Shipped direct to Air Toxics by client  
0601038

Analysis	Due	Expires	Comments
<hr/>			
Sample ID: NPA0432-01	Air	Sampled: 01/04/06 16:33	
Volatile Organics in Air by TO-01/09/06 15:00		01/07/06 16:33	TO-15 subbed to Air Toxics
Containers Supplied:			
Tedlar Bag 1L (A)	Tedlar Bag 1L (B)		
<hr/>			
Sample ID: NPA0432-02	Air	Sampled: 01/04/06 16:45	
Volatile Organics in Air by TO-01/09/06 15:00		01/07/06 16:45	TO-15 subbed to Air Toxics
Containers Supplied:			
Tedlar Bag 1L (A)	Tedlar Bag 1L (B)		
<hr/>			
Sample ID: NPA0432-03	Air	Sampled: 01/04/06 16:43	
Volatile Organics in Air by TO-01/09/06 15:00		01/07/06 16:43	TO-15 subbed to Air Toxics
Containers Supplied:			
Tedlar Bag 1L (A)	Tedlar Bag 1L (B)		
<hr/>			
Sample ID: NPA0432-04	Air	Sampled: 01/04/06 16:40	
Volatile Organics in Air by TO-01/09/06 15:00		01/07/06 16:40	TO-15 subbed to Air Toxics
Containers Supplied:			
Tedlar Bag 1L (A)	Tedlar Bag 1L (B)		
<hr/>			
Sample ID: NPA0432-05	Air	Sampled: 01/04/06 16:38	
Volatile Organics in Air by TO-01/09/06 15:00		01/07/06 16:38	TO-15 subbed to Air Toxics
Containers Supplied:			
Tedlar Bag 1L (A)	Tedlar Bag 1L (B)		



NPA0432

Released By	Date	Received By	Date
Released By	Date	Received By	Date

01/09/06 17:00

RUSH 24 Apr 1965

ANALYTICAL TESTING CORRELATION

Nashville Division  
2800 Foster Creighton  
Nashville, TN 37206

Phone: 615-726-0177  
Fax: 615-728-3406

To assist us in using the proper analytical methods,  
is this work being conducted for regulatory purposes?  
Compliance Monitoring

~~06010~~  
21/10/06

**Client Name**

**Client:**

Address: 1370 S. CENTRAL RD - RICHMOND 2

City/State/Zip Code:

Project Manager: *Michael J. Sullivan*

Telephone Number: 634-1122

File # **E-2934763**

Sample Name: (Print Name) J. STEVEN H. DEANWELL, JR.

Sampler Signature: *[Signature]*

Project Name: 17" COLLIERWIDE

Project #: 831091

Site/Location ID: **COLEMAN**

State: TXReport To: MR. & MRS. J. J. JONES

Invoice To **SAS CORPORATION**

Quote #: 070204A277 FOC: 7405

TAT <input checked="" type="checkbox"/> Standard <input type="checkbox"/> Rush (surcharges may apply)		Date Needed:		Fax Results: <input checked="" type="checkbox"/> N		SAMPLE ID		Date Sampled	Time Sampled	G = Gels, C = Composites	Field Filtered	Matrix: SL - Sludge DW - Drinking Water GW - Groundwater S - Solid Waste MW - Wastewater Specify Other:	Preservation & # of Containers								Analyze For:												QC Deliverables	
													H <sub>2</sub> O	PC	NaOH	LiBO	Methanol	None	Other (Specify)	SP4 ANALYZED TO 15												<input type="checkbox"/> None <input type="checkbox"/> Level 2 <input type="checkbox"/> Level 3 <input type="checkbox"/> Level 4 Other: _____		
																																REMARKS		
SVE 101 INF		7/4/6		1653		4						Value						2	X	NPA 0432-0												1		
SVE 201 INF		7/4/6		1645		4						Value						2	X	02												2		
SVE COMBINED INF		7/4/6		1643		6						Value						2	X	-03														
SVE INT		7/4/6		1640		4						Value						2	X	-04														
SVE EFF		7/4/6		1638		4						Value						2	X	-05														
<div style="text-align: center;"> </div>																																		

Special Instructions: **RUSH BY 11:00 AM 7/11/06**  
 EMAIL TO [JPD121@AEC.COM](mailto:JPD121@AEC.COM)

Relinquished By: <b>J. A. R. R. R.</b>	Date: <b>7-4-6</b>	Time: <b>1800</b>	Received By: <b>J. A. R. R. R.</b>	Date: <b>7-4-6</b>	Time: <b>1800</b>
Relinquished By: <b>J. A. R. R. R.</b>	Date: <b>7/10/06</b>	Time: <b>0955</b>	Received By: <b>J. A. R. R. R.</b>	Date: <b>7/10/06</b>	Time: <b>0955</b>
Relinquished By: <b>J. A. R. R. R.</b>	Date: <b>7/10/06</b>	Time: <b>0955</b>	Received By: <b>J. A. R. R. R.</b>	Date: <b>7/10/06</b>	Time: <b>0955</b>

LABORATORY COMMENTS:

Init Lab Temp: \_\_\_\_\_

Rec Lab Temp: \_\_\_\_\_

Custody Seals: Y N N/A

Bottles Supplied by Test America: Y N

Method of Shipment: \_\_\_\_\_

Page 24 of 25

Ref Ex: 853223723041

Y N MONRTEMP #14

FILE  
73271 - Technical  
MPA SVE Startup  
Analytical Data

January 10, 2006

Client: SAS Environmental Inc. (3403)  
1270 S.Cleveland-Massillon Building A  
Akron, OH 44321  
Attn: Mark V. Allen

Work Order: NPA0432  
Project Name: UT Collierville  
Project Nbr: 031091  
Date Received: 01/06/06

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
SVE 101 ENF	NPA0432-01	01/04/06 16:33
SVE 201 INF	NPA0432-02	01/04/06 16:45
SVE COMBINED INF	NPA0432-03	01/04/06 16:43
SVE INT	NPA0432-04	01/04/06 16:40
SVE EFF	NPA0432-05	01/04/06 16:38

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

This material is intended only for the use of the individual(s) or entity to whom it is addressed, and may contain information that is privileged and confidential. If you are not the intended recipient, or the employee or agent responsible for delivering this material to the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this material is strictly prohibited. If you have received this material in error, please notify us immediately at 615-726-0177.

Tennessee Certification Number: 02008

The Chain(s) of Custody, 24 pages, are included and are an integral part of this report.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

Report Approved By:

*Roxanne L. Connor*

Roxanne Connor  
Senior Project Manager

Client SAS Environmental Inc. (3403)  
1270 S.Cleveland-Massillon Building A  
Akron, OH 44321  
Attn Mark V. Allen

Work Order: NPA0432  
Project Name: UT Collierville  
Project Number: 031091  
Received: 01/06/06 14:54

## ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
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**Sample ID: NPA0432-01 (SVE 101 ENF - Air) Sampled: 01/04/06 16:33**

Subcontracted Analysis

See Attached Report

**Sample ID: NPA0432-02 (SVE 201 INF - Air) Sampled: 01/04/06 16:45**

Subcontracted Analysis

See Attached Report

**Sample ID: NPA0432-03 (SVE COMBINED INF - Air) Sampled: 01/04/06 16:43**

Subcontracted Analysis

See Attached Report

**Sample ID: NPA0432-04 (SVE INT - Air) Sampled: 01/04/06 16:40**

Subcontracted Analysis

See Attached Report

**Sample ID: NPA0432-05 (SVE EFF - Air) Sampled: 01/04/06 16:38**

Subcontracted Analysis

See Attached Report



**AIR TOXICS LTD.**

AN ENVIRONMENTAL ANALYTICAL LABORATORY

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### **Air Toxics Ltd. Introduces the Electronic Report**

Thank you for choosing Air Toxics Ltd. To better serve our customers, we are providing your report by e-mail. This document is provided in Portable Document Format which can be viewed with Acrobat Reader by Adobe.

This electronic report includes the following:

- Work order Summary;
- Laboratory Narrative;
- Results; and
- Chain of Custody (copy).

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630

(916) 985-1000 .FAX (916) 985-1020  
Hours 8:00 A.M to 6:00 P.M. Pacific



# AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

**WORK ORDER #: 0601038**

## Work Order Summary

**CLIENT:** Ms. Kenyatta Thompson  
Test America  
2960 Foster Creighton Dr.  
Nashville, TN 37204

**BILL TO:** Ms. Kenyatta Thompson  
Test America  
2960 Foster Creighton Dr.  
Nashville, TN 37204

**PHONE:** 800-765-0980

**P.O. #** 7608

**FAX:** 615-726-3404

**PROJECT #** 031091 UT Colierville

**DATE RECEIVED:** 01/05/2006

**CONTACT:** Susan Alaniz

**DATE COMPLETED:** 01/06/2006

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC/PRES</u>
01A	SVE 101 INF	Modified TO-15	Tedlar Bag
02A	SVE201 INF	Modified TO-15	Tedlar Bag
03A	SVE COMBINED INF	Modified TO-15	Tedlar Bag
04A	SVE INT	Modified TO-15	Tedlar Bag
05A	SVE EFF	Modified TO-15	Tedlar Bag
06A	Lab Blank	Modified TO-15	NA
07A	CCV	Modified TO-15	NA
08A	LCS	Modified TO-15	NA

CERTIFIED BY:

Laboratory Director

DATE: 01/06/06

Certification numbers: AR DEQ - 03-084-0, CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004  
NY NELAP - 11291, UT NELAP - 9166389892

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,

Accreditation number: E87680, Effective date: 07/01/05, Expiration date: 06/30/06

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630

(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE**  
**Modified TO-15**  
**Test America**  
**Workorder# 0601038**

Five 1 Liter Tedlar Bag samples were received on January 05, 2006. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 0.2 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

<i>Requirement</i>	<i>TO-15</i>	<i>ATL Modifications</i>
Daily CCV	+/- 30% Difference	<= 30% Difference with two allowed out up to <=40%.; flag and narrate outliers
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

**Receiving Notes**

There were no receiving discrepancies.

**Analytical Notes**

The reported LCS for each daily batch has been derived from more than one analytical file.

**Definition of Data Qualifying Flags**

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector  
r1-File was requantified for the purpose of reissue



## AIR TOXICS LTD.

### Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SVE 101 INF

Lab ID#: 0601038-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	100	100	260	260
cis-1,2-Dichloroethene	100	6300	400	25000
Trichloroethene	100	20000	540	110000

Client Sample ID: SVE201 INF

Lab ID#: 0601038-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Propanol	2700	5000	6500	12000
cis-1,2-Dichloroethene	660	5800	2600	23000
Trichloroethene	660	170000	3600	920000
Toluene	660	1400	2500	5100

Client Sample ID: SVE COMBINED INF

Lab ID#: 0601038-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Propanol	2700	3600	6500	8800
cis-1,2-Dichloroethene	660	5200	2600	21000
Trichloroethene	660	110000	3600	570000
Toluene	660	1300	2500	4900

# AIR TOXICS LTD.

Client Sample ID: SVE 101 INF

Lab ID#: 0601038-01A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	010512	Date of Collection:	1/4/06
Dil. Factor:	200	Date of Analysis:	3/6/06 05:24 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	100	Not Detected	490	Not Detected
Freon 114	100	Not Detected	700	Not Detected
Chloromethane	400	Not Detected	830	Not Detected
Vinyl Chloride	100	100	260	260
1,3-Butadiene	100	Not Detected	220	Not Detected
Bromomethane	100	Not Detected	390	Not Detected
Chloroethane	100	Not Detected	260	Not Detected
Freon 11	100	Not Detected	560	Not Detected
Ethanol	400	Not Detected	750	Not Detected
Freon 113	100	Not Detected	770	Not Detected
1,1-Dichloroethene	100	Not Detected	400	Not Detected
Acetone	400	Not Detected	950	Not Detected
2-Propanol	400	Not Detected	980	Not Detected
Carbon Disulfide	100	Not Detected	310	Not Detected
3-Chloropropene	400	Not Detected	1200	Not Detected
Methylene Chloride	100	Not Detected	350	Not Detected
Methyl tert-butyl ether	100	Not Detected	360	Not Detected
trans-1,2-Dichloroethene	100	Not Detected	400	Not Detected
Hexane	100	Not Detected	350	Not Detected
1,1-Dichloroethane	100	Not Detected	400	Not Detected
2-Butanone (Methyl Ethyl Ketone)	100	Not Detected	290	Not Detected
cis-1,2-Dichloroethene	100	6300	400	25000
Tetrahydrofuran	100	Not Detected	290	Not Detected
Chloroform	100	Not Detected	490	Not Detected
1,1,1-Trichloroethane	100	Not Detected	540	Not Detected
Cyclohexane	100	Not Detected	340	Not Detected
Carbon Tetrachloride	100	Not Detected	630	Not Detected
2,2,4-Trimethylpentane	100	Not Detected	470	Not Detected
Benzene	100	Not Detected	320	Not Detected
1,2-Dichloroethane	100	Not Detected	400	Not Detected
Heptane	100	Not Detected	410	Not Detected
Trichloroethene	100	20000	540	110000
1,2-Dichloropropane	100	Not Detected	460	Not Detected
1,4-Dioxane	400	Not Detected	1400	Not Detected
Bromodichloromethane	100	Not Detected	670	Not Detected
cis-1,3-Dichloropropene	100	Not Detected	450	Not Detected
4-Methyl-2-pentanone	100	Not Detected	410	Not Detected
Toluene	100	Not Detected	380	Not Detected
trans-1,3-Dichloropropene	100	Not Detected	450	Not Detected
1,1,2-Trichloroethane	100	Not Detected	540	Not Detected
Tetrachloroethene	100	Not Detected	680	Not Detected
2-Hexanone	400	Not Detected	1600	Not Detected

# AIR TOXICS LTD.

Client Sample ID: SVE 101 INF

Lab ID#: 0601038-01A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	1010812	Date of Collection:	1/4/06
Dil. Factor:	200	Date of Analysis:	1/5/06 05:24 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Dibromochloromethane	100	Not Detected	850	Not Detected
1,2-Dibromoethane (EDB)	100	Not Detected	770	Not Detected
Chlorobenzene	100	Not Detected	460	Not Detected
Ethyl Benzene	100	Not Detected	430	Not Detected
m,p-Xylene	100	Not Detected	430	Not Detected
o-Xylene	100	Not Detected	430	Not Detected
Styrene	100	Not Detected	420	Not Detected
Bromoform	100	Not Detected	1000	Not Detected
Cumene	100	Not Detected	490	Not Detected
1,1,2,2-Tetrachloroethane	100	Not Detected	690	Not Detected
Propylbenzene	100	Not Detected	490	Not Detected
4-Ethyltoluene	100	Not Detected	490	Not Detected
1,3,5-Trimethylbenzene	100	Not Detected	490	Not Detected
1,2,4-Trimethylbenzene	100	Not Detected	490	Not Detected
1,3-Dichlorobenzene	100	Not Detected	600	Not Detected
1,4-Dichlorobenzene	100	Not Detected	600	Not Detected
alpha-Chlorotoluene	100	Not Detected	520	Not Detected
1,2-Dichlorobenzene	100	Not Detected	600	Not Detected
1,2,4-Trichlorobenzene	400	Not Detected	3000	Not Detected
Hexachlorobutadiene	400	Not Detected	4300	Not Detected

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	104	70-130
4-Bromofluorobenzene	93	70-130

# AIR TOXICS LTD.

Client Sample ID: SVE201 INF

Lab ID#: 0601038-02A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	1040518	Date of Collection:	11/4/08
DA Factor:	1330	Date of Analysis:	11/5/08 09:10:28

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	660	Not Detected	3300	Not Detected
Freon 114	660	Not Detected	4600	Not Detected
Chloromethane	2700	Not Detected	5500	Not Detected
Vinyl Chloride	660	Not Detected	1700	Not Detected
1,3-Butadiene	660	Not Detected	1500	Not Detected
Bromomethane	660	Not Detected	2600	Not Detected
Chloroethane	660	Not Detected	1800	Not Detected
Freon 11	660	Not Detected	3700	Not Detected
Ethanol	2700	Not Detected	5000	Not Detected
Freon 113	660	Not Detected	5100	Not Detected
1,1-Dichloroethene	660	Not Detected	2600	Not Detected
Acetone	2700	Not Detected	6300	Not Detected
2-Propanol	2700	5000	6500	12000
Carbon Disulfide	660	Not Detected	2100	Not Detected
3-Chloropropene	2700	Not Detected	8300	Not Detected
Methylene Chloride	660	Not Detected	2300	Not Detected
Methyl tert-butyl ether	660	Not Detected	2400	Not Detected
trans-1,2-Dichloroethene	660	Not Detected	2600	Not Detected
Hexane	660	Not Detected	2300	Not Detected
1,1-Dichloroethane	660	Not Detected	2700	Not Detected
2-Butanone (Methyl Ethyl Ketone)	660	Not Detected	2000	Not Detected
cis-1,2-Dichloroethene	660	5800	2600	23000
Tetrahydrofuran	660	Not Detected	2000	Not Detected
Chloroform	660	Not Detected	3200	Not Detected
1,1,1-Trichloroethane	660	Not Detected	3600	Not Detected
Cyclohexane	660	Not Detected	2300	Not Detected
Carbon Tetrachloride	660	Not Detected	4200	Not Detected
2,2,4-Trimethylpentane	660	Not Detected	3100	Not Detected
Benzene	660	Not Detected	2100	Not Detected
1,2-Dichloroethane	660	Not Detected	2700	Not Detected
Heptane	660	Not Detected	2700	Not Detected
Trichloroethene	660	170000	3600	920000
1,2-Dichloropropane	660	Not Detected	3100	Not Detected
1,4-Dioxane	2700	Not Detected	9600	Not Detected
Bromodichloromethane	660	Not Detected	4400	Not Detected
cis-1,3-Dichloropropene	660	Not Detected	3000	Not Detected
4-Methyl-2-pentanone	660	Not Detected	2700	Not Detected
Toluene	660	1400	2500	5100
trans-1,3-Dichloropropene	660	Not Detected	3000	Not Detected
1,1,2-Trichloroethane	660	Not Detected	3600	Not Detected
Tetrachloroethene	660	Not Detected	4500	Not Detected
2-Hexanone	2700	Not Detected	11000	Not Detected

# AIR TOXICS LTD.

Client Sample ID: SVE201 INF

Lab ID#: 0601038-02A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	1010815	Date of Collection:	11/1/05
Dil. Factor:	1330	Date of Analysis:	11/5/05 09:10 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Dibromochloromethane	660	Not Detected	5700	Not Detected
1,2-Dibromoethane (EDB)	660	Not Detected	5100	Not Detected
Chlorobenzene	660	Not Detected	3100	Not Detected
Ethyl Benzene	660	Not Detected	2900	Not Detected
m,p-Xylene	660	Not Detected	2900	Not Detected
o-Xylene	660	Not Detected	2900	Not Detected
Styrene	660	Not Detected	2800	Not Detected
Bromoform	660	Not Detected	6900	Not Detected
Cumene	660	Not Detected	3300	Not Detected
1,1,2,2-Tetrachloroethane	660	Not Detected	4600	Not Detected
Propylbenzene	660	Not Detected	3300	Not Detected
4-Ethyltoluene	660	Not Detected	3300	Not Detected
1,3,5-Trimethylbenzene	660	Not Detected	3300	Not Detected
1,2,4-Trimethylbenzene	660	Not Detected	3300	Not Detected
1,3-Dichlorobenzene	660	Not Detected	4000	Not Detected
1,4-Dichlorobenzene	660	Not Detected	4000	Not Detected
alpha-Chlorotoluene	660	Not Detected	3400	Not Detected
1,2-Dichlorobenzene	660	Not Detected	4000	Not Detected
1,2,4-Trichlorobenzene	2700	Not Detected	20000	Not Detected
Hexachlorobutadiene	2700	Not Detected	28000	Not Detected

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	101	70-130
4-Bromofluorobenzene	98	70-130

# AIR TOXICS LTD.

Client Sample ID: SVE COMBINED INF

Lab ID#: 0601038-03A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	1010514	Date of Collection:	1/4/08
Dil. Factor:	1330	Date of Analysis:	1/5/08 08:08 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	660	Not Detected	3300	Not Detected
Freon 114	660	Not Detected	4600	Not Detected
Chloromethane	2700	Not Detected	5500	Not Detected
Vinyl Chloride	660	Not Detected	1700	Not Detected
1,3-Butadiene	660	Not Detected	1500	Not Detected
Bromomethane	660	Not Detected	2600	Not Detected
Chloroethane	660	Not Detected	1800	Not Detected
Freon 11	660	Not Detected	3700	Not Detected
Ethanol	2700	Not Detected	5000	Not Detected
Freon 113	660	Not Detected	5100	Not Detected
1,1-Dichloroethene	660	Not Detected	2600	Not Detected
Acetone	2700	Not Detected	6300	Not Detected
2-Propanol	2700	3600	6500	8800
Carbon Disulfide	660	Not Detected	2100	Not Detected
3-Chloropropene	2700	Not Detected	8300	Not Detected
Methylene Chloride	660	Not Detected	2300	Not Detected
Methyl tert-butyl ether	660	Not Detected	2400	Not Detected
trans-1,2-Dichloroethene	660	Not Detected	2600	Not Detected
Hexane	660	Not Detected	2300	Not Detected
1,1-Dichloroethane	660	Not Detected	2700	Not Detected
2-Butanone (Methyl Ethyl Ketone)	660	Not Detected	2000	Not Detected
cis-1,2-Dichloroethene	660	5200	2600	21000
Tetrahydrofuran	660	Not Detected	2000	Not Detected
Chloroform	660	Not Detected	3200	Not Detected
1,1,1-Trichloroethane	660	Not Detected	3600	Not Detected
Cyclohexane	660	Not Detected	2300	Not Detected
Carbon Tetrachloride	660	Not Detected	4200	Not Detected
2,2,4-Trimethylpentane	660	Not Detected	3100	Not Detected
Benzene	660	Not Detected	2100	Not Detected
1,2-Dichloroethane	660	Not Detected	2700	Not Detected
Heptane	660	Not Detected	2700	Not Detected
Trichloroethene	660	110000	3600	570000
1,2-Dichloropropane	660	Not Detected	3100	Not Detected
1,4-Dioxane	2700	Not Detected	9600	Not Detected
Bromodichloromethane	660	Not Detected	4400	Not Detected
cis-1,3-Dichloropropene	660	Not Detected	3000	Not Detected
4-Methyl-2-pentanone	660	Not Detected	2700	Not Detected
Toluene	660	1300	2500	4900
trans-1,3-Dichloropropene	660	Not Detected	3000	Not Detected
1,1,2-Trichloroethane	660	Not Detected	3600	Not Detected
Tetrachloroethene	660	Not Detected	4500	Not Detected
2-Hexanone	2700	Not Detected	11000	Not Detected

# AIR TOXICS LTD.

Client Sample ID: SVE COMBINED INF

Lab ID#: 0601038-03A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	010514	Date of Collection:	7/4/06
Dil. Factor:	1330	Date of Analysis:	7/5/06 03:08 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Dibromochloromethane	660	Not Detected	5700	Not Detected
1,2-Dibromoethane (EDB)	660	Not Detected	5100	Not Detected
Chlorobenzene	660	Not Detected	3100	Not Detected
Ethyl Benzene	660	Not Detected	2900	Not Detected
m,p-Xylene	660	Not Detected	2900	Not Detected
o-Xylene	660	Not Detected	2900	Not Detected
Styrene	660	Not Detected	2800	Not Detected
Bromoform	660	Not Detected	6900	Not Detected
Cumene	660	Not Detected	3300	Not Detected
1,1,2,2-Tetrachloroethane	660	Not Detected	4600	Not Detected
Propylbenzene	660	Not Detected	3300	Not Detected
4-Ethyltoluene	660	Not Detected	3300	Not Detected
1,3,5-Trimethylbenzene	660	Not Detected	3300	Not Detected
1,2,4-Trimethylbenzene	660	Not Detected	3300	Not Detected
1,3-Dichlorobenzene	660	Not Detected	4000	Not Detected
1,4-Dichlorobenzene	660	Not Detected	4000	Not Detected
alpha-Chlorotoluene	660	Not Detected	3400	Not Detected
1,2-Dichlorobenzene	660	Not Detected	4000	Not Detected
1,2,4-Trichlorobenzene	2700	Not Detected	20000	Not Detected
Hexachlorobutadiene	2700	Not Detected	28000	Not Detected

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	95	70-130
1,2-Dichloroethane-d4	104	70-130
4-Bromofluorobenzene	101	70-130

January 20, 2006

Client: SAS Environmental Inc. (3403)  
1270 S.Cleveland-Massillon Building A  
Akron, OH 44321  
Attn: Mark V. Allen

Work Order: NPA2057  
Project Name: UT Collierville  
Project Nbr: 031091  
Date Received: 01/19/06

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
SVE 101 INF	NPA2057-01	01/18/06 19:05
SVE 201 INF	NPA2057-02	01/18/06 19:00
SVE COMBINED INF	NPA2057-03	01/18/06 18:55
SVE INT	NPA2057-04	01/18/06 18:50
SVE EFF	NPA2057-05	01/18/06 18:45

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

This material is intended only for the use of the individual(s) or entity to whom it is addressed, and may contain information that is privileged and confidential. If you are not the intended recipient, or the employee or agent responsible for delivering this material to the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this material is strictly prohibited. If you have received this material in error, please notify us immediately at 615-726-0177.

Tennessee Certification Number: 02008

The Chain(s) of Custody, 24 pages, are included and are an integral part of this report.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

Report Approved By:



Jessica Vickers  
Senior Project Manager





ANALYTICAL TESTING CORPORATION

2960 Foster Creighton Road Nashville, TN 37204 \* 800-765-0980 \* Fax 615-726-3404

Client SAS Environmental Inc. (3403)  
1270 S.Cleveland-Massillon Building A  
Akron, OH 44321  
Attn Mark V. Allen

Work Order: NPA2057  
Project Name: UT Collierville  
Project Number: 031091  
Received: 01/19/06 08:30

### ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
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**Sample ID: NPA2057-01 (SVE 101 INF - Air) Sampled: 01/18/06 19:05**

Subcontracted Analysis

See Attached Report

**Sample ID: NPA2057-02 (SVE 201 INF - Air) Sampled: 01/18/06 19:00**

Subcontracted Analysis

See Attached Report

**Sample ID: NPA2057-03 (SVE COMBINED INF - Air) Sampled: 01/18/06 18:55**

Subcontracted Analysis

See Attached Report

**Sample ID: NPA2057-04 (SVE INT - Air) Sampled: 01/18/06 18:50**

Subcontracted Analysis

See Attached Report

**Sample ID: NPA2057-05 (SVE EFF - Air) Sampled: 01/18/06 18:45**

Subcontracted Analysis

See Attached Report



ANALYTICAL TESTING CORPORATION

2960 Foster Creighton Road Nashville, TN 37204 \* 800-766-0980 \* Fax 615-726-3404

Client SAS Environmental Inc. (3403)  
1270 S.Cleveland-Massillon Building A  
Akron, OH 44321  
Attn Mark V. Allen

Work Order: NPA2057  
Project Name: UT Collierville  
Project Number: 031091  
Received: 01/19/06 08:30

CERTIFICATION SUMMARY

estAmerica Analytical - Nashville

Method	Matrix	AIHA	Nelac	Tennessee
subcontract	Air			

**SUBCONTRACT ORDER**  
**TestAmerica Analytical - Nashville**  
**NPA2057**

**SENDING LABORATORY:**

TestAmerica Analytical - Nashville  
2960 Foster Creighton Road  
Nashville, TN 37204  
Phone: 800-765-0980  
Fax: 615-726-3404  
Project Manager: Kenyatta D. Thompson

**RECEIVING LABORATORY:**

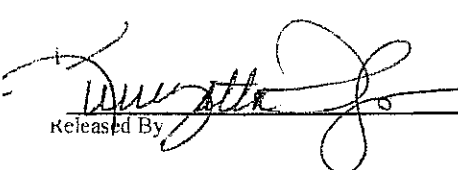
Air Toxics LTD (11938)  
180-B Blue Ravine Road  
Folsom, CA 95630  
Phone : (800) 985-5955  
Fax: (916) 985-1020

Shipped directly to Air Toxics 0601329

Analysis	Due	Expires	Comments
<b>Sample ID: NPA2057-01      Air      Sampled: 01/18/06 19:05</b>			
Volatile Organics in Air by TO-01/23/06 15:00      01/21/06 19:05      Modified TO-15 VOCs			
<i>Containers Supplied:</i>			
Tedlar Bag 1L (A)      Tedlar Bag 1L (B)			
<b>Sample ID: NPA2057-02      Air      Sampled: 01/18/06 19:00</b>			
Volatile Organics in Air by TO-01/23/06 15:00      01/21/06 19:00      Modified TO-15 VOCs			
<i>Containers Supplied:</i>			
Tedlar Bag 1L (A)      Tedlar Bag 1L (B)			
<b>Sample ID: NPA2057-03      Air      Sampled: 01/18/06 18:55</b>			
Volatile Organics in Air by TO-01/23/06 15:00      01/21/06 18:55      Modified TO-15 VOCs			
<i>Containers Supplied:</i>			
Tedlar Bag 1L (A)      Tedlar Bag 1L (B)			
<b>Sample ID: NPA2057-04      Air      Sampled: 01/18/06 18:50</b>			
Volatile Organics in Air by TO-01/23/06 15:00      01/21/06 18:50      Modified TO-15 VOCs			
<i>Containers Supplied:</i>			
Tedlar Bag 1L (A)      Tedlar Bag 1L (B)			
<b>Sample ID: NPA2057-05      Air      Sampled: 01/18/06 18:45</b>			
Volatile Organics in Air by TO-01/23/06 15:00      01/21/06 18:45      Modified TO-15 VOCs			
<i>Containers Supplied:</i>			
Tedlar Bag 1L (A)      Tedlar Bag 1L (B)			



NPA2057

Released By  Date 1/20/06 Received By \_\_\_\_\_ Date \_\_\_\_\_

Released By \_\_\_\_\_ Date \_\_\_\_\_ Received By \_\_\_\_\_ Date \_\_\_\_\_

# TestAmerica

Nashville Division Phone: 615-726-0177  
2950 Foster Creighton Fax: 615-726-3404  
Nashville, TN 37204

To assist us in using the proper analytical methods,  
is this work being conducted for regulatory purposes?  
Compliance Monitoring

*RUSH 24 HR*

0601329

Client Name: 643 Environmental Client #: 3403

Address: 1500 E. Cleveland-Parkway

City/State/Zip Code: Frisco TX 75034

Project Manager: Scott S. Lee

Telephone Number: 800-255-1553 Fax: 817-339-6275

Sampler Name: (Print Name) J. PAUL O'CONNELL JR

Sampler Signature: J. Paul O'Connell Jr

Project Name: UT COLLIERIDGE

Project #: 031091

Site/Location ID: COLLIERIDGE State: TN

Report To: MARK V. AVER

Invoice To: GAS ENVIRONMENTAL INC

Quote #: 090204 PLKFF PO#: 7606

TAT Standard <input checked="" type="checkbox"/> Rush (surcharges may apply)		Date Needed:	Fax Results: <input checked="" type="checkbox"/> N	SAMPLE ID	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix SL - Bldg DW - Drinking Water GW - Groundwater S - Soil WW - Wastewater Specify Other	Preservation & # of Containers							Analyze For:										QC Deliverables									
										HNO <sub>3</sub>	HCl	NaOH	H <sub>2</sub> SO <sub>4</sub>	Methanol	None	Other (Specify)											None	Level 2	(Batch QC)	Level 3	Level 4	Other:				
										EPA 146.1-15.2 TD/5																										
										REMARKS																										
SVE 10V INF										01/10/06	1905	G		Water					2	RUSH 24 HR TAT																
SVE 30V INF										01/10/06	1900	G		Water					2	"																
SVE Combined INF										01/10/06	1855	G		Water					2	"																
SVE INT										01/10/06	1850	G		Water					2	"																
SVE EFF										01/10/06	1845	G		Water					2	"																
JFO																																				

Special Instructions:

RUSH 24 HR TAT

EMAIL TO: JFO 131 @ AOL.COM

LABORATORY COMMENTS:

Init Lab Temp:

Rec Lab Temp:

Custody Seals: Y N N/A

Bottles Supplied by Test America: Y N

Method of Shipment:

CUSTODY SEAL INTACT?

Y N NONE TEMP N/A

Relinquished By: J. Paul O'Connell Jr	Date: 1-18-06	Time: 2000	Received By: FEDEX	Date: 1-18-06	Time: 2000
Relinquished By:	Date:	Time:	Received By: J. Paul O'Connell Jr	Date: 01/19/06	Time: 0.30
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

RUSH 24 HR TAT FAX: 85355572206

NPA2057-01

-02  
-03  
-04  
-05



**AIR TOXICS LTD.**

AN ENVIRONMENTAL ANALYTICAL LABORATORY

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This electronic report includes the following:

- Work order Summary;
- Laboratory Narrative;
- Results; and
- Chain of Custody (copy).

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630

(916) 985-1000 .FAX (916) 985-1020  
Hours 8:00 A.M to 6:00 P.M. Pacific



AN ENVIRONMENTAL ANALYTICAL LABORATORY

## WORK ORDER #: 0601329

### Work Order Summary

<b>CLIENT:</b>	Ms. Kenyatta Thompson Test America 2960 Foster Creighton Dr. Nashville, TN 37204	<b>BILL TO:</b>	Ms. Kenyatta Thompson Test America 2960 Foster Creighton Dr. Nashville, TN 37204
<b>PHONE:</b>	800-765-0980	<b>P.O. #</b>	7608
<b>FAX:</b>	615-726-3404	<b>PROJECT #</b>	NPA2057
<b>DATE RECEIVED:</b>	01/19/2006	<b>CONTACT:</b>	Susan Alaniz
<b>DATE COMPLETED:</b>	01/20/2006		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>
01A	NPA2057-01	Modified TO-15	Tedlar Bag
02A	NPA2057-02	Modified TO-15	Tedlar Bag
03A	NPA2057-03	Modified TO-15	Tedlar Bag
04A	NPA2057-04	Modified TO-15	Tedlar Bag
05A	NPA2057-05	Modified TO-15	Tedlar Bag
06A	Lab Blank	Modified TO-15	NA
07A	CCV	Modified TO-15	NA
08A	LCS	Modified TO-15	NA

CERTIFIED BY:

Laboratory Director

DATE: 01/20/06

Certification numbers: AR DEQ - 03-084-0, CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004  
NY NELAP - 11291, UT NELAP - 9166389892

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,

Accreditation number: E87680, Effective date: 07/01/05, Expiration date: 06/30/06

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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**LABORATORY NARRATIVE**  
**Modified TO-15**  
**Test America**  
**Workorder# 0601329**

Five 1 Liter Tedlar Bag samples were received on January 19, 2006. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 0.2 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

<i>Requirement</i>	<i>TO-15</i>	<i>ATL Modifications</i>
Daily CCV	+/- 30% Difference	<= 30% Difference with two allowed out up to <=40%; flag and narrate outliers
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

**Receiving Notes**

There were no receiving discrepancies.

**Analytical Notes**

The reported LCS for each daily batch has been derived from more than one analytical file.

All Quality Control Limit failures and affected sample results are noted by flags. Each flag is defined at the bottom of this Case Narrative and on each Sample Result Summary page. Target compound non-detects in the samples that are associated with high bias in QC analyses have not been flagged.

**Definition of Data Qualifying Flags**

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



**AIR TOXICS LTD.**  
**Summary of Detected Compounds**  
**MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN**

Client Sample ID: NPA2057-01

Lab ID#: 0601329-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
cis-1,2-Dichloroethene	10	560	40	2200
Trichloroethene	10	1500	54	8000

Client Sample ID: NPA2057-02

Lab ID#: 0601329-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Propanol	1600	2100	3900	5100
cis-1,2-Dichloroethene	400	4400	1600	17000
Trichloroethene	400	120000	2100	660000

Client Sample ID: NPA2057-03

Lab ID#: 0601329-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Propanol	1000	1800	2400	4500
cis-1,2-Dichloroethene	250	3900	990	15000
Trichloroethene	250	74000	1300	400000

# AIR TOXICS LTD.

Client Sample ID: NPA2057-01

Lab ID#: 0601329-01A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	1011928	Date of Collection:	1/18/06
Dil. Factor:	20.0	Date of Analysis:	1/20/06 06:30 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	10	Not Detected	49	Not Detected
Freon 114	10	Not Detected	70	Not Detected
Chloromethane	40	Not Detected	83	Not Detected
Vinyl Chloride	10	Not Detected	26	Not Detected
1,3-Butadiene	10	Not Detected	22	Not Detected
Bromomethane	10	Not Detected	39	Not Detected
Chloroethane	10	Not Detected	26	Not Detected
Freon 11	10	Not Detected	56	Not Detected
Ethanol	40	Not Detected	75	Not Detected
Freon 113	10	Not Detected	77	Not Detected
1,1-Dichloroethene	10	Not Detected	40	Not Detected
Acetone	40	Not Detected	95	Not Detected
2-Propanol	40	Not Detected	98	Not Detected
Carbon Disulfide	10	Not Detected	31	Not Detected
3-Chloropropene	40	Not Detected	120	Not Detected
Methylene Chloride	10	Not Detected	35	Not Detected
Methyl tert-butyl ether	10	Not Detected	36	Not Detected
trans-1,2-Dichloroethene	10	Not Detected	40	Not Detected
Hexane	10	Not Detected	35	Not Detected
1,1-Dichloroethane	10	Not Detected	40	Not Detected
2-Butanone (Methyl Ethyl Ketone)	10	Not Detected	29	Not Detected
cis-1,2-Dichloroethene	10	560	40	2200
Tetrahydrofuran	10	Not Detected	29	Not Detected
Chloroform	10	Not Detected	49	Not Detected
1,1,1-Trichloroethane	10	Not Detected	54	Not Detected
Cyclohexane	10	Not Detected	34	Not Detected
Carbon Tetrachloride	10	Not Detected	63	Not Detected
2,2,4-Trimethylpentane	10	Not Detected	47	Not Detected
Benzene	10	Not Detected	32	Not Detected
1,2-Dichloroethane	10	Not Detected	40	Not Detected
Heptane	10	Not Detected	41	Not Detected
Trichloroethene	10	1500	54	8000
1,2-Dichloropropane	10	Not Detected	46	Not Detected
1,4-Dioxane	40	Not Detected	140	Not Detected
Bromodichloromethane	10	Not Detected	67	Not Detected
cis-1,3-Dichloropropene	10	Not Detected	45	Not Detected
4-Methyl-2-pentanone	10	Not Detected	41	Not Detected
Toluene	10	Not Detected	38	Not Detected
trans-1,3-Dichloropropene	10	Not Detected	45	Not Detected
1,1,2-Trichloroethane	10	Not Detected	54	Not Detected
Tetrachloroethene	10	Not Detected	68	Not Detected
2-Hexanone	40	Not Detected	160	Not Detected

# AIR TOXICS LTD.

Client Sample ID: NPA2057-01

Lab ID#: 0601329-01A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	I011928	Date of Collection:	1/18/06
Dil. Factor:	20.0	Date of Analysis:	1/20/06 06:30 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Dibromochloromethane	10	Not Detected	85	Not Detected
1,2-Dibromoethane (EDB)	10	Not Detected	77	Not Detected
Chlorobenzene	10	Not Detected	46	Not Detected
Ethyl Benzene	10	Not Detected	43	Not Detected
m,p-Xylene	10	Not Detected	43	Not Detected
o-Xylene	10	Not Detected	43	Not Detected
Styrene	10	Not Detected	42	Not Detected
Bromoform	10	Not Detected	100	Not Detected
Cumene	10	Not Detected	49	Not Detected
1,1,2,2-Tetrachloroethane	10	Not Detected	69	Not Detected
Propylbenzene	10	Not Detected	49	Not Detected
4-Ethyltoluene	10	Not Detected	49	Not Detected
1,3,5-Trimethylbenzene	10	Not Detected	49	Not Detected
1,2,4-Trimethylbenzene	10	Not Detected	49	Not Detected
1,3-Dichlorobenzene	10	Not Detected	60	Not Detected
1,4-Dichlorobenzene	10	Not Detected	60	Not Detected
alpha-Chlorotoluene	10	Not Detected	52	Not Detected
1,2-Dichlorobenzene	10	Not Detected	60	Not Detected
1,2,4-Trichlorobenzene	40	Not Detected	300	Not Detected
Hexachlorobutadiene	40	Not Detected	430	Not Detected

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	92	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	101	70-130

# AIR TOXICS LTD.

Client Sample ID: NPA2057-02

Lab ID#: 0601329-02A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	1011925	Date of Collection:	1/18/06
Dil. Factor:	800	Date of Analysis:	1/20/06 04:32 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	400	Not Detected	2000	Not Detected
Freon 114	400	Not Detected	2800	Not Detected
Chloromethane	1600	Not Detected	3300	Not Detected
Vinyl Chloride	400	Not Detected	1000	Not Detected
1,3-Butadiene	400	Not Detected	880	Not Detected
Bromomethane	400	Not Detected	1600	Not Detected
Chloroethane	400	Not Detected	1000	Not Detected
Freon 11	400	Not Detected	2200	Not Detected
Ethanol	1600	Not Detected	3000	Not Detected
Freon 113	400	Not Detected	3100	Not Detected
1,1-Dichloroethene	400	Not Detected	1600	Not Detected
Acetone	1600	Not Detected	3800	Not Detected
2-Propanol	1600	2100	3900	5100
Carbon Disulfide	400	Not Detected	1200	Not Detected
3-Chloropropene	1600	Not Detected	5000	Not Detected
Methylene Chloride	400	Not Detected	1400	Not Detected
Methyl tert-butyl ether	400	Not Detected	1400	Not Detected
trans-1,2-Dichloroethene	400	Not Detected	1600	Not Detected
Hexane	400	Not Detected	1400	Not Detected
1,1-Dichloroethane	400	Not Detected	1600	Not Detected
2-Butanone (Methyl Ethyl Ketone)	400	Not Detected	1200	Not Detected
cis-1,2-Dichloroethene	400	4400	1600	17000
Tetrahydrofuran	400	Not Detected	1200	Not Detected
Chloroform	400	Not Detected	2000	Not Detected
1,1,1-Trichloroethane	400	Not Detected	2200	Not Detected
Cyclohexane	400	Not Detected	1400	Not Detected
Carbon Tetrachloride	400	Not Detected	2500	Not Detected
2,2,4-Trimethylpentane	400	Not Detected	1900	Not Detected
Benzene	400	Not Detected	1300	Not Detected
1,2-Dichloroethane	400	Not Detected	1600	Not Detected
Heptane	400	Not Detected	1600	Not Detected
Trichloroethene	400	120000	2100	660000
1,2-Dichloropropane	400	Not Detected	1800	Not Detected
1,4-Dioxane	1600	Not Detected	5800	Not Detected
Bromodichloromethane	400	Not Detected	2700	Not Detected
cis-1,3-Dichloropropene	400	Not Detected	1800	Not Detected
4-Methyl-2-pentanone	400	Not Detected	1600	Not Detected
Toluene	400	Not Detected	1500	Not Detected
trans-1,3-Dichloropropene	400	Not Detected	1800	Not Detected
1,1,2-Trichloroethane	400	Not Detected	2200	Not Detected
Tetrachloroethene	400	Not Detected	2700	Not Detected
2-Hexanone	1600	Not Detected	6600	Not Detected

# AIR TOXICS LTD.

Client Sample ID: NPA2057-02

Lab ID#: 0601329-02A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	1011925	Date of Collection:	1/18/06
Dil. Factor:	800	Date of Analysis:	1/20/06 04:32 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Dibromochloromethane	400	Not Detected	3400	Not Detected
1,2-Dibromoethane (EDB)	400	Not Detected	3100	Not Detected
Chlorobenzene	400	Not Detected	1800	Not Detected
Ethyl Benzene	400	Not Detected	1700	Not Detected
m,p-Xylene	400	Not Detected	1700	Not Detected
o-Xylene	400	Not Detected	1700	Not Detected
Styrene	400	Not Detected	1700	Not Detected
Bromoform	400	Not Detected	4100	Not Detected
Cumene	400	Not Detected	2000	Not Detected
1,1,2,2-Tetrachloroethane	400	Not Detected	2700	Not Detected
Propylbenzene	400	Not Detected	2000	Not Detected
4-Ethyltoluene	400	Not Detected	2000	Not Detected
1,3,5-Trimethylbenzene	400	Not Detected	2000	Not Detected
1,2,4-Trimethylbenzene	400	Not Detected	2000	Not Detected
1,3-Dichlorobenzene	400	Not Detected	2400	Not Detected
1,4-Dichlorobenzene	400	Not Detected	2400	Not Detected
alpha-Chlorotoluene	400	Not Detected	2100	Not Detected
1,2-Dichlorobenzene	400	Not Detected	2400	Not Detected
1,2,4-Trichlorobenzene	1600	Not Detected	12000	Not Detected
Hexachlorobutadiene	1600	Not Detected	17000	Not Detected

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	99	70-130
4-Bromofluorobenzene	92	70-130

# AIR TOXICS LTD.

Client Sample ID: NPA2057-03

Lab ID#: 0601329-03A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	1011927	Date of Collection:	4/18/06
Dil. Factor:	500	Date of Analysis:	4/20/06 05:51 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	250	Not Detected	1200	Not Detected
Freon 114	250	Not Detected	1700	Not Detected
Chloromethane	1000	Not Detected	2100	Not Detected
Vinyl Chloride	250	Not Detected	640	Not Detected
1,3-Butadiene	250	Not Detected	550	Not Detected
Bromomethane	250	Not Detected	970	Not Detected
Chloroethane	250	Not Detected	660	Not Detected
Freon 11	250	Not Detected	1400	Not Detected
Ethanol	1000	Not Detected	1900	Not Detected
Freon 113	250	Not Detected	1900	Not Detected
1,1-Dichloroethene	250	Not Detected	990	Not Detected
Acetone	1000	Not Detected	2400	Not Detected
2-Propanol	1000	1800	2400	4500
Carbon Disulfide	250	Not Detected	780	Not Detected
3-Chloropropene	1000	Not Detected	3100	Not Detected
Methylene Chloride	250	Not Detected	870	Not Detected
Methyl tert-butyl ether	250	Not Detected	900	Not Detected
trans-1,2-Dichloroethene	250	Not Detected	990	Not Detected
Hexane	250	Not Detected	880	Not Detected
1,1-Dichloroethane	250	Not Detected	1000	Not Detected
2-Butanone (Methyl Ethyl Ketone)	250	Not Detected	740	Not Detected
cis-1,2-Dichloroethene	250	3900	990	15000
Tetrahydrofuran	250	Not Detected	740	Not Detected
Chloroform	250	Not Detected	1200	Not Detected
1,1,1-Trichloroethane	250	Not Detected	1400	Not Detected
Cyclohexane	250	Not Detected	860	Not Detected
Carbon Tetrachloride	250	Not Detected	1600	Not Detected
2,2,4-Trimethylpentane	250	Not Detected	1200	Not Detected
Benzene	250	Not Detected	800	Not Detected
1,2-Dichloroethane	250	Not Detected	1000	Not Detected
Heptane	250	Not Detected	1000	Not Detected
Trichloroethene	250	74000	1300	400000
1,2-Dichloropropane	250	Not Detected	1200	Not Detected
1,4-Dioxane	1000	Not Detected	3600	Not Detected
Bromodichloromethane	250	Not Detected	1700	Not Detected
cis-1,3-Dichloropropene	250	Not Detected	1100	Not Detected
4-Methyl-2-pentanone	250	Not Detected	1000	Not Detected
Toluene	250	Not Detected	940	Not Detected
trans-1,3-Dichloropropene	250	Not Detected	1100	Not Detected
1,1,2-Trichloroethane	250	Not Detected	1400	Not Detected
Tetrachloroethene	250	Not Detected	1700	Not Detected
2-Hexanone	1000	Not Detected	4100	Not Detected

# AIR TOXICS LTD.

Client Sample ID: NPA2057-03

Lab ID#: 0601329-03A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	1011927	Date of Collection:	1/18/06
Dil. Factor:	500	Date of Analysis:	1/20/06 05:51 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Dibromochloromethane	250	Not Detected	2100	Not Detected
1,2-Dibromoethane (EDB)	250	Not Detected	1900	Not Detected
Chlorobenzene	250	Not Detected	1200	Not Detected
Ethyl Benzene	250	Not Detected	1100	Not Detected
m,p-Xylene	250	Not Detected	1100	Not Detected
o-Xylene	250	Not Detected	1100	Not Detected
Styrene	250	Not Detected	1100	Not Detected
Bromoform	250	Not Detected	2600	Not Detected
Cumene	250	Not Detected	1200	Not Detected
1,1,2,2-Tetrachloroethane	250	Not Detected	1700	Not Detected
Propylbenzene	250	Not Detected	1200	Not Detected
4-Ethyltoluene	250	Not Detected	1200	Not Detected
1,3,5-Trimethylbenzene	250	Not Detected	1200	Not Detected
1,2,4-Trimethylbenzene	250	Not Detected	1200	Not Detected
1,3-Dichlorobenzene	250	Not Detected	1500	Not Detected
1,4-Dichlorobenzene	250	Not Detected	1500	Not Detected
alpha-Chlorotoluene	250	Not Detected	1300	Not Detected
1,2-Dichlorobenzene	250	Not Detected	1500	Not Detected
1,2,4-Trichlorobenzene	1000	Not Detected	7400	Not Detected
Hexachlorobutadiene	1000	Not Detected	11000	Not Detected

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	100	70-130
4-Bromofluorobenzene	99	70-130



# AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

## WORK ORDER #: 0602144

### Work Order Summary

<b>CLIENT:</b>	Mr. Mark Allen SAS Environmental 1270 S. Cleveland Massillon Road Bldg.A Akron, OH 44321	<b>BILL TO:</b>	Mr. Mark Allen SAS Environmental 1270 S. Cleveland Massillon Road Bldg.A Akron, OH 44321
<b>PHONE:</b>	330-666-1546	<b>P.O. #</b>	7608
<b>FAX:</b>	330-666-7443	<b>PROJECT #</b>	031091 UT Collierville
<b>DATE RECEIVED:</b>	02/07/2006	<b>CONTACT:</b>	Susan Alaniz
<b>DATE COMPLETED:</b>	02/08/2006		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT</u> <u>VAC./PRES.</u>
01A	SVE 101 INF (SP101)	Modified TO-15	Tedlar Bag
02A	SVE 201 INF (SP201)	Modified TO-15	Tedlar Bag
03A	SVE Combined INF (SP301)	Modified TO-15	Tedlar Bag
04A	SVE INT (SP302)	Modified TO-15	Tedlar Bag
05A	SVE EFF (SP303)	Modified TO-15	Tedlar Bag
06A	Lab Blank	Modified TO-15	NA
07A	CCV	Modified TO-15	NA
08A	LCS	Modified TO-15	NA

CERTIFIED BY:

Laboratory Director

DATE: 02/08/06

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004  
NY NELAP - 11291, UT NELAP - 9166389892

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,

Accreditation number: E87680, Effective date: 07/01/05, Expiration date: 06/30/06

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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**LABORATORY NARRATIVE**  
**Modified TO-15**  
**SAS Environmental**  
**Workorder# 0602144**

Five 1 Liter Tedlar Bag samples were received on February 07, 2006. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 0.2 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

<i>Requirement</i>	<i>TO-15</i>	<i>ATL Modifications</i>
Daily CCV	+/- 30% Difference	<= 30% Difference with two allowed out up to <=40%.; flag and narrate outliers
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

**Receiving Notes**

There were no receiving discrepancies.

**Analytical Notes**

The reported LCS for each daily batch has been derived from more than one analytical file.

**Definition of Data Qualifying Flags**

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:



## **AIR TOXICS LTD.**

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



# AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

## Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SVE 101 INF (SP101)

Lab ID#: 0602144-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	28	73	73	190
trans-1,2-Dichloroethene	28	34	110	140
cis-1,2-Dichloroethene	28	2800	110	11000
Trichloroethene	28	6700	150	36000

Client Sample ID: SVE 201 INF (SP201)

Lab ID#: 0602144-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
cis-1,2-Dichloroethene	660	4000	2600	16000
Trichloroethene	660	140000	3600	750000

Client Sample ID: SVE Combined INF (SP301)

Lab ID#: 0602144-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Propanol	1300	2800	3300	6900
cis-1,2-Dichloroethene	330	3000	1300	12000
Trichloroethene	330	82000	1800	440000



# AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SVE 101 INF (SP101)

Lab ID#: 0602144-01A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	1020708	Date of Collection: 2/6/06		
Dil. Factor:	57.1	Date of Analysis: 2/7/06 03:22 PM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	28	Not Detected	140	Not Detected
Freon 114	28	Not Detected	200	Not Detected
Chloromethane	110	Not Detected	240	Not Detected
Vinyl Chloride	28	73	73	190
1,3-Butadiene	28	Not Detected	63	Not Detected
Bromomethane	28	Not Detected	110	Not Detected
Chloroethane	28	Not Detected	75	Not Detected
Freon 11	28	Not Detected	160	Not Detected
Ethanol	110	Not Detected	220	Not Detected
Freon 113	28	Not Detected	220	Not Detected
1,1-Dichloroethene	28	Not Detected	110	Not Detected
Acetone	110	Not Detected	270	Not Detected
2-Propanol	110	Not Detected	280	Not Detected
Carbon Disulfide	28	Not Detected	89	Not Detected
3-Chloropropene	110	Not Detected	360	Not Detected
Methylene Chloride	28	Not Detected	99	Not Detected
Methyl tert-butyl ether	28	Not Detected	100	Not Detected
trans-1,2-Dichloroethene	28	34	110	140
Hexane	28	Not Detected	100	Not Detected
1,1-Dichloroethane	28	Not Detected	120	Not Detected
2-Butanone (Methyl Ethyl Ketone)	28	Not Detected	84	Not Detected
cis-1,2-Dichloroethene	28	2800	110	11000
Tetrahydrofuran	28	Not Detected	84	Not Detected
Chloroform	28	Not Detected	140	Not Detected
1,1,1-Trichloroethane	28	Not Detected	160	Not Detected
Cyclohexane	28	Not Detected	98	Not Detected
Carbon Tetrachloride	28	Not Detected	180	Not Detected
2,2,4-Trimethylpentane	28	Not Detected	130	Not Detected
Benzene	28	Not Detected	91	Not Detected
1,2-Dichloroethane	28	Not Detected	120	Not Detected
Heptane	28	Not Detected	120	Not Detected
Trichloroethene	28	6700	150	36000
1,2-Dichloropropane	28	Not Detected	130	Not Detected
1,4-Dioxane	110	Not Detected	410	Not Detected
Bromodichloromethane	28	Not Detected	190	Not Detected
cis-1,3-Dichloropropene	28	Not Detected	130	Not Detected
4-Methyl-2-pentanone	28	Not Detected	120	Not Detected
Toluene	28	Not Detected	110	Not Detected
trans-1,3-Dichloropropene	28	Not Detected	130	Not Detected
1,1,2-Trichloroethane	28	Not Detected	160	Not Detected



# AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SVE 101 INF (SP101)

Lab ID#: 0602144-01A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	1020708	Date of Collection:	2/6/06
Dil. Factor:	57.1	Date of Analysis:	2/7/06 03:22 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Tetrachloroethene	28	Not Detected	190	Not Detected
2-Hexanone	110	Not Detected	470	Not Detected
Dibromochloromethane	28	Not Detected	240	Not Detected
1,2-Dibromoethane (EDB)	28	Not Detected	220	Not Detected
Chlorobenzene	28	Not Detected	130	Not Detected
Ethyl Benzene	28	Not Detected	120	Not Detected
m,p-Xylene	28	Not Detected	120	Not Detected
o-Xylene	28	Not Detected	120	Not Detected
Styrene	28	Not Detected	120	Not Detected
Bromoform	28	Not Detected	300	Not Detected
Cumene	28	Not Detected	140	Not Detected
1,1,2,2-Tetrachloroethane	28	Not Detected	200	Not Detected
Propylbenzene	28	Not Detected	140	Not Detected
4-Ethyltoluene	28	Not Detected	140	Not Detected
1,3,5-Trimethylbenzene	28	Not Detected	140	Not Detected
1,2,4-Trimethylbenzene	28	Not Detected	140	Not Detected
1,3-Dichlorobenzene	28	Not Detected	170	Not Detected
1,4-Dichlorobenzene	28	Not Detected	170	Not Detected
alpha-Chlorotoluene	28	Not Detected	150	Not Detected
1,2-Dichlorobenzene	28	Not Detected	170	Not Detected
1,2,4-Trichlorobenzene	110	Not Detected	850	Not Detected
Hexachlorobutadiene	110	Not Detected	1200	Not Detected

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	105	70-130
1,2-Dichloroethane-d4	107	70-130
4-Bromofluorobenzene	106	70-130



# AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SVE 201 INF (SP201)

Lab ID#: 0602144-02A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	1020709	Date of Collection: 2/6/06		
Dil. Factor:	1330	Date of Analysis: 2/7/06 04:13 PM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	660	Not Detected	3300	Not Detected
Freon 114	660	Not Detected	4600	Not Detected
Chloromethane	2700	Not Detected	5500	Not Detected
Vinyl Chloride	660	Not Detected	1700	Not Detected
1,3-Butadiene	660	Not Detected	1500	Not Detected
Bromomethane	660	Not Detected	2600	Not Detected
Chloroethane	660	Not Detected	1800	Not Detected
Freon 11	660	Not Detected	3700	Not Detected
Ethanol	2700	Not Detected	5000	Not Detected
Freon 113	660	Not Detected	5100	Not Detected
1,1-Dichloroethene	660	Not Detected	2600	Not Detected
Aceione	2700	Not Detected	6300	Not Detected
2-Propanol	2700	Not Detected	6500	Not Detected
Carbon Disulfide	660	Not Detected	2100	Not Detected
3-Chloropropene	2700	Not Detected	8300	Not Detected
Methylene Chloride	660	Not Detected	2300	Not Detected
Methyl tert-butyl ether	660	Not Detected	2400	Not Detected
trans-1,2-Dichloroethene	660	Not Detected	2600	Not Detected
Hexane	660	Not Detected	2300	Not Detected
1,1-Dichloroethane	660	Not Detected	2700	Not Detected
2-Butanone (Methyl Ethyl Ketone)	660	Not Detected	2000	Not Detected
cis-1,2-Dichloroethene	660	4000	2600	16000
Tetrahydrofuran	660	Not Detected	2000	Not Detected
Chloroform	660	Not Detected	3200	Not Detected
1,1,1-Trichloroethane	660	Not Detected	3600	Not Detected
Cyclohexane	660	Not Detected	2300	Not Detected
Carbon Tetrachloride	660	Not Detected	4200	Not Detected
2,2,4-Trimethylpentane	660	Not Detected	3100	Not Detected
Benzene	660	Not Detected	2100	Not Detected
1,2-Dichloroethane	660	Not Detected	2700	Not Detected
Heptane	660	Not Detected	2700	Not Detected
Trichloroethene	660	140000	3600	750000
1,2-Dichloropropane	660	Not Detected	3100	Not Detected
1,4-Dioxane	2700	Not Detected	9600	Not Detected
Bromodichloromethane	660	Not Detected	4400	Not Detected
cis-1,3-Dichloropropene	660	Not Detected	3000	Not Detected
4-Methyl-2-pentanone	660	Not Detected	2700	Not Detected
Toluene	660	Not Detected	2500	Not Detected
trans-1,3-Dichloropropene	660	Not Detected	3000	Not Detected
1,1,2-Trichloroethane	660	Not Detected	3600	Not Detected



# AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SVE 201 INF (SP201)

Lab ID#: 0602144-02A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	1020709	Date of Collection: 2/6/06
Dil. Factor:	1330	Date of Analysis: 2/7/06 04:13 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Tetrachloroethene	660	Not Detected	4500	Not Detected
2-Hexanone	2700	Not Detected	11000	Not Detected
Dibromochloromethane	660	Not Detected	5700	Not Detected
1,2-Dibromoethane (EDB)	660	Not Detected	5100	Not Detected
Chlorobenzene	660	Not Detected	3100	Not Detected
Ethyl Benzene	660	Not Detected	2900	Not Detected
m,p-Xylene	660	Not Detected	2900	Not Detected
o-Xylene	660	Not Detected	2900	Not Detected
Styrene	660	Not Detected	2800	Not Detected
Bromoform	660	Not Detected	6900	Not Detected
Cumene	660	Not Detected	3300	Not Detected
1,1,2,2-Tetrachloroethane	660	Not Detected	4600	Not Detected
Propylbenzene	660	Not Detected	3300	Not Detected
4-Ethyltoluene	660	Not Detected	3300	Not Detected
1,3,5-Trimethylbenzene	660	Not Detected	3300	Not Detected
1,2,4-Trimethylbenzene	660	Not Detected	3300	Not Detected
1,3-Dichlorobenzene	660	Not Detected	4000	Not Detected
1,4-Dichlorobenzene	660	Not Detected	4000	Not Detected
alpha-Chlorotoluene	660	Not Detected	3400	Not Detected
1,2-Dichlorobenzene	660	Not Detected	4000	Not Detected
1,2,4-Trichlorobenzene	2700	Not Detected	20000	Not Detected
Hexachlorobutadiene	2700	Not Detected	28000	Not Detected

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	108	70-130
4-Bromofluorobenzene	105	70-130



# AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SVE Combined INF (SP301)

Lab ID#: 0602144-03A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN				
File Name:	1020710	Date of Collection: 2/6/06		
Dil. Factor:	667	Date of Analysis: 2/7/06 04:53 PM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	330	Not Detected	1600	Not Detected
Freon 114	330	Not Detected	2300	Not Detected
Chloromethane	1300	Not Detected	2800	Not Detected
Vinyl Chloride	330	Not Detected	850	Not Detected
1,3-Butadiene	330	Not Detected	740	Not Detected
Bromomethane	330	Not Detected	1300	Not Detected
Chloroethane	330	Not Detected	880	Not Detected
Freon 11	330	Not Detected	1900	Not Detected
Ethanol	1300	Not Detected	2500	Not Detected
Freon 113	330	Not Detected	2600	Not Detected
1,1-Dichloroethene	330	Not Detected	1300	Not Detected
Acetone	1300	Not Detected	3200	Not Detected
2-Propanol	1300	2800	3300	6900
Carbon Disulfide	330	Not Detected	1000	Not Detected
3-Chloropropene	1300	Not Detected	4200	Not Detected
Methylene Chloride	330	Not Detected	1200	Not Detected
Methyl tert-butyl ether	330	Not Detected	1200	Not Detected
trans-1,2-Dichloroethene	330	Not Detected	1300	Not Detected
Hexane	330	Not Detected	1200	Not Detected
1,1-Dichloroethane	330	Not Detected	1300	Not Detected
2-Butanone (Methyl Ethyl Ketone)	330	Not Detected	980	Not Detected
cis-1,2-Dichloroethene	330	3000	1300	12000
Tetrahydrofuran	330	Not Detected	980	Not Detected
Chloroform	330	Not Detected	1600	Not Detected
1,1,1-Trichloroethane	330	Not Detected	1800	Not Detected
Cyclohexane	330	Not Detected	1100	Not Detected
Carbon Tetrachloride	330	Not Detected	2100	Not Detected
2,2,4-Trimethylpentane	330	Not Detected	1600	Not Detected
Benzene	330	Not Detected	1100	Not Detected
1,2-Dichloroethane	330	Not Detected	1300	Not Detected
Heptane	330	Not Detected	1400	Not Detected
Trichloroethene	330	82000	1800	44 0000
1,2-Dichloropropane	330	Not Detected	1500	Not Detected
1,4-Dioxane	1300	Not Detected	4800	Not Detected
Bromodichloromethane	330	Not Detected	2200	Not Detected
cis-1,3-Dichloropropene	330	Not Detected	1500	Not Detected
4-Methyl-2-pentanone	330	Not Detected	1400	Not Detected
Toluene	330	Not Detected	1200	Not Detected
trans-1,3-Dichloropropene	330	Not Detected	1500	Not Detected
1,1,2-Trichloroethane	330	Not Detected	1800	Not Detected





# AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SVE Combined INF (SP301)

Lab ID#: 0602144-03A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	1020710	Date of Collection:	2/6/06
Dil. Factor:	667	Date of Analysis:	2/7/06 04:53 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Tetrachloroethene	330	Not Detected	2300	Not Detected
2-Hexanone	1300	Not Detected	5500	Not Detected
Dibromochloromethane	330	Not Detected	2800	Not Detected
1,2-Dibromoethane (EDB)	330	Not Detected	2600	Not Detected
Chlorobenzene	330	Not Detected	1500	Not Detected
Ethyl Benzene	330	Not Detected	1400	Not Detected
m,p-Xylene	330	Not Detected	1400	Not Detected
o-Xylene	330	Not Detected	1400	Not Detected
Styrene	330	Not Detected	1400	Not Detected
Bromoform	330	Not Detected	3400	Not Detected
Cumene	330	Not Detected	1600	Not Detected
1,1,2,2-Tetrachloroethane	330	Not Detected	2300	Not Detected
Propylbenzene	330	Not Detected	1600	Not Detected
4-Ethyltoluene	330	Not Detected	1600	Not Detected
1,3,5-Trimethylbenzene	330	Not Detected	1600	Not Detected
1,2,4-Trimethylbenzene	330	Not Detected	1600	Not Detected
1,3-Dichlorobenzene	330	Not Detected	2000	Not Detected
1,4-Dichlorobenzene	330	Not Detected	2000	Not Detected
alpha-Chlorotoluene	330	Not Detected	1700	Not Detected
1,2-Dichlorobenzene	330	Not Detected	2000	Not Detected
1,2,4-Trichlorobenzene	1300	Not Detected	9900	Not Detected
Hexachlorobutadiene	1300	Not Detected	14000	Not Detected

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	108	70-130
4-Bromofluorobenzene	108	70-130

# Test America

ANALYTICAL TESTING CORPORATION

Nashville Division Phone: 615-726-0177  
2960 Foster Creighton Fax: 615-726-5404  
Nashville, TN 37204

To assist us in using the proper analytical methods,  
is this work being conducted for regulatory purposes?  
Compliance Monitoring

USH 24 HR FAT

0602144

Client Name SAS ENVIRONMENTAL INC Client # 3403

Address: 1270 S. LIOVE-MASS RD

City/State/Zip Code: ALTON OH 44324

Project Manager: MARK H. ALLEN

Telephone Number: 330 666 1546 Fax: 330 666 7446

Sampler Name: (Print Name) JEANNE BARNWELL JR

Sampler Signature: [Signature]

Project Name: UT Collectionville

Project #: 05/091

Site/Location ID: Collectionville State: TA

Report To: MARK H. ALLEN

Invoice To: SAS ENVIRONMENTAL INC

Quote #: 090204PLK99 PO#: 7608

TAT		Matrix		Preservation & # of Containers		Analyze For:										QC Deliverables	
Standard																	
<input checked="" type="checkbox"/> Rush (surcharges may apply)																	None
Date Needed:																	Level 2
Fax Results: <input checked="" type="checkbox"/> N																	(Batch QC)
																	Level 3
																	Level 4
																	Other:
SAMPLE ID	Date Sampled	Time Sampled	IG = Grab, C = Composite	Field Filtered	SL - Single DW - Drinking Water	GW - Groundwater	S - Solid	W - Wastewater	Specs Other	HNO <sub>3</sub>	HCl	NaOH	H <sub>2</sub> SO <sub>4</sub>	Methanol	None	Other (Specify)	REMARKS
01A SVE 101 INF (SP301)	7/6/06	1217	G		Y										2	X	USH 24 HR FAT
02A SVE 201 INF (SP301)	7/6/06	1224	G		Y										2	X	"
03A SVE 301 INF (SP301)	7/6/06	1220	G		Y										2	X	"
04A SVE 101 (SP302)	7/6/06	1213	G		Y										2	X	"
05A SVE EFF (SP302)	7/6/06	1210	G		Y										2	X	"
SLO																	

Special Instructions:

USH 24 HR FAT email to JBA@AOL.COM

LABORATORY COMMENTS:

Init Lab Temp:

Rec Lab Temp:

Relinquished By: <u>[Signature]</u>	Date: <u>7/6/06</u>	Time: <u>1800</u>	Received By: <u>[Signature]</u>	Date: <u>7/6/06</u>	Time: <u>1800</u>
Relinquished By:	Date:	Time:	Received By: <u>[Signature]</u>	Date: <u>7/7/06</u>	Time: <u>1030</u>
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Custody Seals: Y N N/A  
Bottles Supplied by Test America: Y N

Method of Shipment:

USH 24 HR FAT

FAX

0602155058



**AIR TOXICS LTD.**

AN ENVIRONMENTAL ANALYTICAL LABORATORY

RECEIVED MAR 06 2006

**WORK ORDER #: 0602345**

Work Order Summary

<b>CLIENT:</b>	Mr. Mark Allen SAS Environmental 1270 S. Cleveland Massillon Road Bldg.A Akron, OH 44321	<b>BILL TO:</b>	Mr. Mark Allen SAS Environmental 1270 S. Cleveland Massillon Road Bldg.A Akron, OH 44321
<b>PHONE:</b>	330-666-1546	<b>P.O. #</b>	7608
<b>FAX:</b>	330-666-7443	<b>PROJECT #</b>	031091 UT Collierville
<b>DATE RECEIVED:</b>	02/15/2006	<b>CONTACT:</b>	Susan Alaniz
<b>DATE COMPLETED:</b>	03/01/2006		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC/PRES.</u>
01A	SVE Combined INF (SP301)	Modified TO-15	Tedlar Bag
02A	SVE INT (SP302)	Modified TO-15	Tedlar Bag
03A	Lab Blank	Modified TO-15	NA
04A	CCV	Modified TO-15	NA
05A	LCS	Modified TO-15	NA

CERTIFIED BY:

Laboratory Director

DATE: 03/01/06

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004  
NY NELAP - 11291, UT NELAP - 9166389892

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,  
Accreditation number: E87680, Effective date: 07/01/05, Expiration date: 06/30/06

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630  
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE**  
**Modified TO-15**  
**SAS Environmental**  
**Workorder# 0602345**

Two 1 Liter Tedlar Bag samples were received on February 15, 2006. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 0.2 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

<i>Requirement</i>	<i>TO-15</i>	<i>ATL Modifications</i>
Daily CCV	+/- 30% Difference	<= 30% Difference with two allowed out up to <=40%.; flag and narrate outliers
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

**Receiving Notes**

There were no receiving discrepancies.

**Analytical Notes**

The reported LCS for each daily batch has been derived from more than one analytical file.

**Definition of Data Qualifying Flags**

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

## AIR TOXICS LTD.

### Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SVE Combined INF (SP301)

Lab ID#: 0602345-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
cis-1,2-Dichloroethene	330	2300	1300	9000
Trichloroethene	330	60000	1800	320000

# AIR TOXICS LTD.

Client Sample ID: SVE Combined INF (SP301)

Lab ID#: 0602345-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	8021627	Date of Collection: 2/14/06
Dil. Factor:	667	Date of Analysis: 2/17/06 09:09 AM

Compound	Rot. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	330	Not Detected	1600	Not Detected
Freon 114	330	Not Detected	2300	Not Detected
Chloromethane	1300	Not Detected	2800	Not Detected
Vinyl Chloride	330	Not Detected	850	Not Detected
1,3-Butadiene	330	Not Detected	740	Not Detected
Bromomethane	330	Not Detected	1300	Not Detected
Chloroethane	330	Not Detected	880	Not Detected
Freon 11	330	Not Detected	1900	Not Detected
Ethanol	1300	Not Detected	2500	Not Detected
Freon 113	330	Not Detected	2600	Not Detected
1,1-Dichloroethene	330	Not Detected	1300	Not Detected
Acetone	1300	Not Detected	3200	Not Detected
2-Propanol	1300	Not Detected	3300	Not Detected
Carbon Disulfide	330	Not Detected	1000	Not Detected
3-Chloropropene	1300	Not Detected	4200	Not Detected
Methylene Chloride	330	Not Detected	1200	Not Detected
Methyl tert-butyl ether	330	Not Detected	1200	Not Detected
trans-1,2-Dichloroethene	330	Not Detected	1300	Not Detected
Hexane	330	Not Detected	1200	Not Detected
1,1-Dichloroethane	330	Not Detected	1300	Not Detected
2-Butanone (Methyl Ethyl Ketone)	330	Not Detected	980	Not Detected
cis-1,2-Dichloroethene	330	2300	1300	9000
Tetrahydrofuran	330	Not Detected	980	Not Detected
Chloroform	330	Not Detected	1600	Not Detected
1,1,1-Trichloroethane	330	Not Detected	1800	Not Detected
Cyclohexane	330	Not Detected	1100	Not Detected
Carbon Tetrachloride	330	Not Detected	2100	Not Detected
2,2,4-Trimethylpentane	330	Not Detected	1600	Not Detected
Benzene	330	Not Detected	1100	Not Detected
1,2-Dichloroethane	330	Not Detected	1300	Not Detected
Heptane	330	Not Detected	1400	Not Detected
Trichloroethene	330	60000	1800	320000
1,2-Dichloropropane	330	Not Detected	1500	Not Detected
1,4-Dioxane	1300	Not Detected	4800	Not Detected
Bromodichloromethane	330	Not Detected	2200	Not Detected
cis-1,3-Dichloropropene	330	Not Detected	1500	Not Detected
4-Methyl-2-pentanone	330	Not Detected	1400	Not Detected
Toluene	330	Not Detected	1200	Not Detected
trans-1,3-Dichloropropene	330	Not Detected	1500	Not Detected
1,1,2-Trichloroethane	330	Not Detected	1800	Not Detected
Tetrachloroethene	330	Not Detected	2300	Not Detected
2-Hexanone	1300	Not Detected	5500	Not Detected

# AIR TOXICS LTD.

Client Sample ID: SVE Combined INF (SP301)

Lab ID#: 0602345-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	8021627	Date of Collection: 2/14/06
Dil. Factor:	667	Date of Analysis: 2/17/06 09:09 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Dibromochloromethane	330	Not Detected	2800	Not Detected
1,2-Dibromoethane (EDB)	330	Not Detected	2600	Not Detected
Chlorobenzene	330	Not Detected	1500	Not Detected
Ethyl Benzene	330	Not Detected	1400	Not Detected
m,p-Xylene	330	Not Detected	1400	Not Detected
o-Xylene	330	Not Detected	1400	Not Detected
Styrene	330	Not Detected	1400	Not Detected
Bromoform	330	Not Detected	3400	Not Detected
Cumene	330	Not Detected	1600	Not Detected
1,1,2,2-Tetrachloroethane	330	Not Detected	2300	Not Detected
Propylbenzene	330	Not Detected	1600	Not Detected
4-Ethyltoluene	330	Not Detected	1600	Not Detected
1,3,5-Trimethylbenzene	330	Not Detected	1600	Not Detected
1,2,4-Trimethylbenzene	330	Not Detected	1600	Not Detected
1,3-Dichlorobenzene	330	Not Detected	2000	Not Detected
1,4-Dichlorobenzene	330	Not Detected	2000	Not Detected
alpha-Chlorotoluene	330	Not Detected	1700	Not Detected
1,2-Dichlorobenzene	330	Not Detected	2000	Not Detected
1,2,4-Trichlorobenzene	1300	Not Detected	9900	Not Detected
Hexachlorobutadiene	1300	Not Detected	14000	Not Detected

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	107	70-130
4-Bromofluorobenzene	103	70-130



FedEx: 8530 55772066

**AIR TOXICS LTD.**

AN ENVIRONMENTAL ANALYTICAL LABORATORY

RECEIVED MAR 10 2006

**WORK ORDER #: 0602468**

## Work Order Summary

<b>CLIENT:</b>	Mr. Mark Allen SAS Environmental 1270 S. Cleveland Massillon Road Bldg. A Akron, OH 44321	<b>BILL TO:</b>	Mr. Mark Allen SAS Environmental 1270 S. Cleveland Massillon Road Bldg. A Akron, OH 44321
<b>PHONE:</b>	330-666-1546	<b>P.O. #</b>	7608
<b>FAX:</b>	330-666-7443	<b>PROJECT #</b>	031091 UT Collierville
<b>DATE RECEIVED:</b>	02/22/2006	<b>CONTACT:</b>	Susan Alaniz
<b>DATE COMPLETED:</b>	03/03/2006		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT</u> <u>VAC./PRES.</u>
01A	SVE Combined INF (SP301)	Modified TO-15	Tedlar Bag
02A	SVE INT (SP302)	Modified TO-15	Tedlar Bag
03A	Lab Blank	Modified TO-15	NA
04A	CCV	Modified TO-15	NA
05A	LCS	Modified TO-15	NA

CERTIFIED BY:

Laboratory Director

DATE: 03/03/06

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- A1 30763, NJ NELAP - CA004  
NY NELAP - 11291, UT NELAP - 9166389892

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,  
Accreditation number: E87680, Effective date: 07/01/05, Expiration date: 06/30/06

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630  
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE**  
**Modified TO-15**  
**SAS Environmental**  
**Workorder# 0602468**

Two 1 Liter Tedlar Bag samples were received on February 22, 2006. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 0.2 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

<i>Requirement</i>	<i>TO-15</i>	<i>ATL Modifications</i>
Daily CCV	+/- 30% Difference	<= 30% Difference with two allowed out up to <=40%.; flag and narrate outliers
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

**Receiving Notes**

There were no receiving discrepancies.

**Analytical Notes**

The reported LCS for each daily batch has been derived from more than one analytical file.

**Definition of Data Qualifying Flags**

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



# AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SVE Combined INF (SP301)

Lab ID#: 0602468-01A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

MODIFIED EPA METHOD 10-15 GC/MS FULL SCAN				
File Name:	f022414	Date of Collection: 2/21/06		
Dil. Factor:	400	Date of Analysis: 2/24/06 06:51 PM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	200	Not Detected	990	Not Detected
Freon 114	200	Not Detected	1400	Not Detected
Chloromethane	800	Not Detected	1600	Not Detected
Vinyl Chloride	200	Not Detected	510	Not Detected
1,3-Butadiene	200	Not Detected	440	Not Detected
Bromomethane	200	Not Detected	780	Not Detected
Chloroethane	200	Not Detected	530	Not Detected
Freon 11	200	Not Detected	1100	Not Detected
Ethanol	800	Not Detected	1500	Not Detected
Freon 113	200	Not Detected	1500	Not Detected
1,1-Dichloroethene	200	Not Detected	790	Not Detected
Acetone	800	Not Detected	1900	Not Detected
2-Propanol	800	2300	2000	5600
Carbon Disulfide	200	200	620	640
3-Chloropropene	800	Not Detected	2500	Not Detected
Methylene Chloride	200	Not Detected	690	Not Detected
Methyl tert-butyl ether	200	Not Detected	720	Not Detected
trans-1,2-Dichloroethene	200	Not Detected	790	Not Detected
Hexane	200	Not Detected	700	Not Detected
1,1-Dichloroethane	200	Not Detected	810	Not Detected
2-Butanone (Methyl Ethyl Ketone)	200	Not Detected	590	Not Detected
cis-1,2-Dichloroethene	200	2000	790	7900
Tetrahydrofuran	200	Not Detected	590	Not Detected
Chloroform	200	Not Detected	980	Not Detected
1,1,1-Trichloroethane	200	Not Detected	1100	Not Detected
Cyclohexane	200	Not Detected	690	Not Detected
Carbon Tetrachloride	200	Not Detected	1200	Not Detected
2,2,4-Trimethylpentane	200	Not Detected	930	Not Detected
Benzene	200	Not Detected	640	Not Detected
1,2-Dichloroethane	200	Not Detected	810	Not Detected
Heptane	200	Not Detected	820	Not Detected
Trichloroethene	200	69000	1100	370000
1,2-Dichloropropane	200	Not Detected	920	Not Detected
1,4-Dioxane	800	Not Detected	2900	Not Detected
Bromodichloromethane	200	Not Detected	1300	Not Detected
cis-1,3-Dichloropropene	200	Not Detected	910	Not Detected
4-Methyl-2-pentanone	200	Not Detected	820	Not Detected
Toluene	200	Not Detected	750	Not Detected
trans-1,3-Dichloropropene	200	Not Detected	910	Not Detected
1,1,2-Trichloroethane	200	Not Detected	1100	Not Detected



# AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SVE Combined INF (SP301)

Lab ID#: 0602468-01A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	f022414	Date of Collection:	2/21/06
Dil. Factor:	400	Date of Analysis:	2/24/06 06:51 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Tetrachloroethene	200	Not Detected	1400	Not Detected
2-Hexanone	800	Not Detected	3300	Not Detected
Dibromochloromethane	200	Not Detected	1700	Not Detected
1,2-Dibromoethane (EDB)	200	Not Detected	1500	Not Detected
Chlorobenzene	200	Not Detected	920	Not Detected
Ethyl Benzene	200	Not Detected	870	Not Detected
m,p-Xylene	200	Not Detected	870	Not Detected
o-Xylene	200	Not Detected	870	Not Detected
Styrene	200	Not Detected	850	Not Detected
Bromoform	200	Not Detected	2100	Not Detected
Cumene	200	Not Detected	980	Not Detected
1,1,2,2-Tetrachloroethane	200	Not Detected	1400	Not Detected
Propylbenzene	200	Not Detected	980	Not Detected
4-Ethyltoluene	200	Not Detected	980	Not Detected
1,3,5-Trimethylbenzene	200	Not Detected	980	Not Detected
1,2,4-Trimethylbenzene	200	Not Detected	980	Not Detected
1,3-Dichlorobenzene	200	Not Detected	1200	Not Detected
1,4-Dichlorobenzene	200	Not Detected	1200	Not Detected
alpha-Chlorotoluene	200	Not Detected	1000	Not Detected
1,2-Dichlorobenzene	200	Not Detected	1200	Not Detected
1,2,4-Trichlorobenzene	800	Not Detected	5900	Not Detected
Hexachlorobutadiene	800	Not Detected	8500	Not Detected

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	114	70-130
4-Bromofluorobenzene	105	70-130

# TestAmerica

**Nashville Division  
2960 Foster Creighton  
Nashville, TN 37204**

**Phone: 615-726-0177**  
**Fax: 615-726-3404**

To assist us in using the proper analytical methods,  
is this work being conducted for regulatory purposes?  
Compliance Monitoring

Client Name SAS ENVIRONMENTAL INC.

Client #: 2493

Address: 1270 S. CLEVELAND - MORGANTOWN A

City/State/Zip Code: AKRON OH 44321

Project Manager: *MARK W. ALLEN*

**Telephone Number:** 330-666-1546

Fax 3,13306667443

Sampler Name: (Print Name) J. Frank O'Connor, Jr.

Sampler Signature: *[Signature]*

Project Name: OT COLLIERVILLE

Project #: 031091

Site/Location ID: *Colonyville*

State: TX

Report To: MARK V. ALLEN

Invoice To: **EAS Environmental Inc.**

Quote #: 090204 PK99

PO#: 7608

[illegible]

Ref. # 8565 6647 073

FedEx: 856566470731



**AIR TOXICS LTD.**

AN ENVIRONMENTAL ANALYTICAL LABORATORY

RECEIVED MAR 07 2006

**WORK ORDER #: 0603039**

Work Order Summary

<b>CLIENT:</b>	Mr. Mark Allen SAS Environmental 1270 S. Cleveland Massillon Road Bldg.A Akron, OH 44321	<b>BILL TO:</b>	Mr. Mark Allen SAS Environmental 1270 S. Cleveland Massillon Road Bldg.A Akron, OH 44321
<b>PHONE:</b>	330-666-1546	<b>P.O. #</b>	7608
<b>FAX:</b>	330-666-7443	<b>PROJECT #</b>	031091 UT Collierville
<b>DATE RECEIVED:</b>	03/02/2006	<b>CONTACT:</b>	Susan Alaniz
<b>DATE COMPLETED:</b>	03/03/2006		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC/PRES.</u>
J1A	SVE Combined INF (SP301)	Modified TO-15	Tedlar Bag
02A	SVE INT (SP302)	Modified TO-15	Tedlar Bag
03A	Lab Blank	Modified TO-15	NA
04A	CCV	Modified TO-15	NA
05A	LCS	Modified TO-15	NA

CERTIFIED BY:

*Sandra A. Fumman*

Laboratory Director

DATE: 03/03/06

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AJ 30763, NJ NELAP - CA004  
NY NELAP - 11291, UT NELAP - 9166389892

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,  
Accreditation number: E87680, Effective date: 07/01/05, Expiration date: 06/30/06

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630

(016) 985-1000 (800) 985-5055 FAX (016) 985-1020

**LABORATORY NARRATIVE**  
**Modified TO-15**  
**SAS Environmental**  
**Workorder# 0603039**

Two 1 Liter Tedlar Bag samples were received on March 02, 2006. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 0.2 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

<i>Requirement</i>	<i>TO-15</i>	<i>ATL Modifications</i>
Daily CCV	+/- 30% Difference	<= 30% Difference with two allowed out up to <=40%; flag and narrate outliers
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

**Receiving Notes**

There were no receiving discrepancies.

**Analytical Notes**

All Quality Control Limit failures and affected sample results are noted by flags. Each flag is defined at the bottom of this Case Narrative and on each Sample Result Summary page. Target compound non-detects in the samples that are associated with high bias in QC analyses have not been flagged.

The reported LCS for each daily batch has been derived from more than one analytical file.

**Definition of Data Qualifying Flags**

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

o File was re-identified



b-File was quantified by a second column and detector  
r1-File was requantified for the purpose of reissue

# AIR TOXICS LTD.

Client Sample ID: SVE Combined INF (SP301)

Lab ID#: 0603039-01A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	1030214	Date of Collection:	3/1/06
Dil. Factor:	500	Date of Analysis:	3/2/06 08:18 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	250	Not Detected	1200	Not Detected
Freon 114	250	Not Detected	1700	Not Detected
Chloromethane	1000	Not Detected	2100	Not Detected
Vinyl Chloride	250	Not Detected	640	Not Detected
1,3-Butadiene	250	Not Detected	550	Not Detected
Bromomethane	250	Not Detected	970	Not Detected
Chloroethane	250	Not Detected	660	Not Detected
Freon 11	250	Not Detected	1400	Not Detected
Ethanol	1000	Not Detected	1900	Not Detected
Freon 113	250	Not Detected	1900	Not Detected
1,1-Dichloroethene	250	Not Detected	990	Not Detected
Acetone	1000	Not Detected	2400	Not Detected
2-Propanol	1000	1300	2400	3200
Carbon Disulfide	250	Not Detected	780	Not Detected
3-Chloropropene	1000	Not Detected	3100	Not Detected
Methylene Chloride	250	Not Detected	870	Not Detected
Methyl tert-butyl ether	250	Not Detected	900	Not Detected
trans-1,2-Dichloroethene	250	Not Detected	990	Not Detected
Hexane	250	Not Detected	880	Not Detected
1,1-Dichloroethane	250	Not Detected	1000	Not Detected
2-Butanone (Methyl Ethyl Ketone)	250	Not Detected	740	Not Detected
cis-1,2-Dichloroethene	250	1900	990	7600
Tetrahydrofuran	250	Not Detected	740	Not Detected
Chloroform	250	Not Detected	1200	Not Detected
1,1,1-Trichloroethane	250	Not Detected	1400	Not Detected
Cyclohexane	250	Not Detected	860	Not Detected
Carbon Tetrachloride	250	Not Detected	1600	Not Detected
2,2,4-Trimethylpentane	250	Not Detected	1200	Not Detected
Benzene	250	Not Detected	800	Not Detected
1,2-Dichloroethane	250	Not Detected	1000	Not Detected
Heptane	250	Not Detected	1000	Not Detected
Trichloroethene	250	65000	1300	350000
1,2-Dichloropropane	250	Not Detected	1200	Not Detected
1,4-Dioxane	1000	Not Detected	3600	Not Detected
Bromodichloromethane	250	Not Detected	1700	Not Detected
cis-1,3-Dichloropropene	250	Not Detected	1100	Not Detected
4-Methyl-2-pentanone	250	Not Detected	1000	Not Detected
Toluene	250	660	940	2500
trans-1,3-Dichloropropene	250	Not Detected	1100	Not Detected
1,1,2-Trichloroethane	250	Not Detected	1400	Not Detected
Tetrachloroethene	250	450	1700	3000
2-Hexanone	1000	Not Detected	4100	Not Detected

# AIR TOXICS LTD.

Client Sample ID: SVE Combined INF (SP301)

Lab ID#: 0603039-01A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	i030214	Date of Collection:	3/1/06
Dil. Factor:	500	Date of Analysis:	3/2/06 08:18 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Dibromochloromethane	250	Not Detected	2100	Not Detected
1,2-Dibromoethane (EDB)	250	Not Detected	1900	Not Detected
Chlorobenzene	250	Not Detected	1200	Not Detected
Ethyl Benzene	250	Not Detected	1100	Not Detected
m,p-Xylene	250	770	1100	3300
o-Xylene	250	420	1100	1800
Styrene	250	Not Detected	1100	Not Detected
Bromoform	250	Not Detected	2600	Not Detected
Cumene	250	Not Detected	1200	Not Detected
1,1,2,2-Tetrachloroethane	250	Not Detected	1700	Not Detected
Propylbenzene	250	Not Detected	1200	Not Detected
4-Ethyltoluene	250	Not Detected	1200	Not Detected
1,3,5-Trimethylbenzene	250	Not Detected	1200	Not Detected
1,2,4-Trimethylbenzene	250	Not Detected	1200	Not Detected
1,3-Dichlorobenzene	250	Not Detected	1500	Not Detected
1,4-Dichlorobenzene	250	Not Detected	1500	Not Detected
alpha-Chlorotoluene	250	Not Detected	1300	Not Detected
1,2-Dichlorobenzene	250	Not Detected	1500	Not Detected
1,2,4-Trichlorobenzene	1000	Not Detected	7400	Not Detected
Hexachlorobutadiene	1000	Not Detected	11000	Not Detected

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	96	70-130

ANALYTICAL TESTING CORPORATION

**NARRATIVE LAYMON**  
2960 Foster Clayton  
Phone: 615-726-0177  
Fax: 615-726-5404

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes? Compliance Monitoring

06030390 14174 he 1450

Client Name	DRG ENGINEERING, INC.	Client #:	3455
Address:	4111 S. EVERETT AVE. - SUITE 104		
City/State/Zip Code:	SAFOP OH 43221		
Project Manager:	MARK A. JONES		
Telephone Number:	714-631-1245	Fax:	914-834-8674
Sampler Name: (Print Name)	DRG ENGINEERING, INC.		
Sampler Signature:	Art Young		

Project Name:	ST COLLIERVILLE
Project #:	031001
Site/Location ID:	DECEMBER
Report To:	MANUE V. ALLEN
Invoice To:	888 COMMERCIAL/IN/IN
Quote #:	090244 PLE 89
	PO# 7408

[illegible]

Requisitioned By:		Date:	Time:	Received By:	Date:	Time:	Method of Shipment:
Requisitioned By:		Date:	Time:	Received By:	Date:	Time:	Method of Shipment: Rec Lab Temp: Init Lab Temp: LABORATORY COMMENTS: Custody Sealer: Y N N/A Bottles Supplied by Test America: Y N
Requisitioned By:		Date:	Time:	Received By:	Date:	Time:	
Requisitioned By:		Date:	Time:	Received By:	Date:	Time:	

CUSTODY SEAL IN FACT

540LH74S78: 7,



# AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

RECEIVED MAR 27 2006

**WORK ORDER #: 0603223**

## Work Order Summary

**CLIENT:**

Mr. Mark Allen  
SAS Environmental  
1270 S. Cleveland Massillon Road  
Bldg. A  
Akron, OH 44321

**BILL TO:** Mr. Mark Allen  
SAS Environmental  
1270 S. Cleveland Massillon Road  
Bldg. A  
Akron, OH 44321

**PHONE:**

330-666-1546

**FAX:**

330-666-7443

**DATE RECEIVED:**

03/10/2006

**DATE COMPLETED:**

03/21/2006

**P.O. #** 7608

**PROJECT #** 031091 UT Collierville

**CONTACT:** Susan Alaniz

<u>ACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT</u> <u>VAC./PRES.</u>
01A	SVE101INF (SP101)	Modified TO-15	Tedlar Bag
02A	SVE201INF (SP201)	Modified TO-15	Tedlar Bag
03A	SVE Combined INF (SP301)	Modified TO-15	Tedlar Bag
04A	SVE INT (SP302)	Modified TO-15	Tedlar Bag
05A	SVE EFF (SP303)	Modified TO-15	Tedlar Bag
06A	Lab Blank	Modified TO-15	NA
08A	LCS	Modified TO-15	NA
09A	CCV	Modified TO-15	NA

CERTIFIED BY:

*Sandra J. Fummar*

Laboratory Director

DATE: 03/23/06

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004  
NY NELAP - 11291, UT NELAP - 9166389892

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,  
Accreditation number: E87680, Effective date: 07/01/05, Expiration date: 06/30/06

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards  
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**LABORATORY NARRATIVE**  
**Modified TO-15**  
**SAS Environmental**  
**Workorder# 0603223**

Five 1 Liter Tedlar Bag samples were received on March 10, 2006. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 0.2 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

<i>Requirement</i>	<i>TO-15</i>	<i>ATL Modifications</i>
Daily CCV	+/- 30% Difference	<= 30% Difference with two allowed out up to <=40%.; flag and narrate outliers
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

**Receiving Notes**

There were no receiving discrepancies.

**Analytical Notes**

The reported LCS for each daily batch has been derived from more than one analytical file.

**Definition of Data Qualifying Flags**

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



# AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SVE101INF (SP101)

Lab ID#: 0603223-01A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	8031118	Date of Collection:	3/9/06	
Dil. Factor:	20.0	Date of Analysis:	3/11/06 09:36 PM	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	10	Not Detected	49	Not Detected
Freon 114	10	Not Detected	70	Not Detected
Chloromethane	40	Not Detected	83	Not Detected
Vinyl Chloride	10	61	26	160
1,3-Butadiene	10	Not Detected	22	Not Detected
Bromomethane	10	Not Detected	39	Not Detected
Chloroethane	10	Not Detected	26	Not Detected
Freon 11	10	Not Detected	56	Not Detected
Ethanol	40	Not Detected	75	Not Detected
Freon 113	10	Not Detected	77	Not Detected
1,1-Dichloroethene	10	Not Detected	40	Not Detected
Acetone	40	Not Detected	95	Not Detected
2-Propanol	40	Not Detected	98	Not Detected
Carbon Disulfide	10	Not Detected	31	Not Detected
3-Chloropropene	40	Not Detected	120	Not Detected
Methylene Chloride	10	Not Detected	35	Not Detected
Methyl tert-butyl ether	10	Not Detected	36	Not Detected
trans-1,2-Dichloroethene	10	17	40	68
Hexane	10	Not Detected	35	Not Detected
1,1-Dichloroethane	10	Not Detected	40	Not Detected
2-Butanone (Methyl Ethyl Ketone)	10	Not Detected	29	Not Detected
cis-1,2-Dichloroethene	10	930	40	3700
Tetrahydrofuran	10	13	29	40
Chloroform	10	Not Detected	49	Not Detected
1,1,1-Trichloroethane	10	Not Detected	54	Not Detected
Cyclohexane	10	Not Detected	34	Not Detected
Carbon Tetrachloride	10	Not Detected	63	Not Detected
2,2,4-Trimethylpentane	10	Not Detected	47	Not Detected
Benzene	10	Not Detected	32	Not Detected
1,2-Dichloroethane	10	Not Detected	40	Not Detected
Heptane	10	Not Detected	41	Not Detected
Trichloroethene	10	2400	54	13000
1,2-Dichloropropane	10	Not Detected	46	Not Detected
1,4-Dioxane	40	Not Detected	140	Not Detected
Bromodichloromethane	10	Not Detected	67	Not Detected
cis-1,3-Dichloropropene	10	Not Detected	45	Not Detected
4-Methyl-2-pentanone	10	Not Detected	41	Not Detected
Toluene	10	Not Detected	38	Not Detected
trans-1,3-Dichloropropene	10	Not Detected	45	Not Detected
1,1,2-Trichloroethane	10	Not Detected	54	Not Detected



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SVE101INF (SP101)

Lab ID#: 0603223-01A

**MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN**

File Name:	8031118	Date of Collection:	3/9/06
Dil. Factor:	20.0	Date of Analysis:	3/11/06 09:36 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Tetrachloroethene	10	Not Detected	68	Not Detected
2-Hexanone	40	Not Detected	160	Not Detected
Dibromochloromethane	10	Not Detected	85	Not Detected
1,2-Dibromoethane (EDB)	10	Not Detected	77	Not Detected
Chlorobenzene	10	Not Detected	46	Not Detected
Ethyl Benzene	10	Not Detected	43	Not Detected
m,p-Xylene	10	Not Detected	43	Not Detected
o-Xylene	10	Not Detected	43	Not Detected
Styrene	10	Not Detected	42	Not Detected
Bromoform	10	Not Detected	100	Not Detected
Cumene	10	Not Detected	49	Not Detected
1,1,2,2-Tetrachloroethane	10	Not Detected	69	Not Detected
Propylbenzene	10	Not Detected	49	Not Detected
4-Ethyltoluene	10	Not Detected	49	Not Detected
1,3,5-Trimethylbenzene	10	Not Detected	49	Not Detected
1,2,4-Trimethylbenzene	10	Not Detected	49	Not Detected
1,3-Dichlorobenzene	10	Not Detected	60	Not Detected
1,4-Dichlorobenzene	10	Not Detected	60	Not Detected
alpha-Chlorotoluene	10	Not Detected	52	Not Detected
1,2-Dichlorobenzene	10	Not Detected	60	Not Detected
1,2,4-Trichlorobenzene	40	Not Detected	300	Not Detected
Hexachlorobutadiene	40	Not Detected	430	Not Detected

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	105	70-130
4-Bromofluorobenzene	93	70-130





# AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SVE201INF (SP201)

Lab ID#: 0603223-02A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	8031113	Date of Collection: 3/9/06
Dil. Factor:	1000	Date of Analysis: 3/11/06 06:25 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	500	Not Detected	2500	Not Detected
Freon 114	500	Not Detected	3500	Not Detected
Chloromethane	2000	Not Detected	4100	Not Detected
Vinyl Chloride	500	Not Detected	1300	Not Detected
1,3-Butadiene	500	Not Detected	1100	Not Detected
Bromomethane	500	Not Detected	1900	Not Detected
Chloroethane	500	Not Detected	1300	Not Detected
Freon 11	500	Not Detected	2800	Not Detected
Ethanol	2000	Not Detected	3800	Not Detected
Freon 113	500	Not Detected	3800	Not Detected
1,1-Dichloroethene	500	Not Detected	2000	Not Detected
Acetone	2000	Not Detected	4800	Not Detected
2-Propanol	2000	Not Detected	4900	Not Detected
Carbon Disulfide	500	Not Detected	1600	Not Detected
3-Chloropropene	2000	Not Detected	6300	Not Detected
Methylene Chloride	500	Not Detected	1700	Not Detected
Methyl tert-butyl ether	500	Not Detected	1800	Not Detected
trans-1,2-Dichloroethene	500	Not Detected	2000	Not Detected
Hexane	500	Not Detected	1800	Not Detected
1,1-Dichloroethane	500	Not Detected	2000	Not Detected
2-Butanone (Methyl Ethyl Ketone)	500	Not Detected	1500	Not Detected
cis-1,2-Dichloroethene	500	1900	2000	7600
Tetrahydrofuran	500	Not Detected	1500	Not Detected
Chloroform	500	Not Detected	2400	Not Detected
1,1,1-Trichloroethane	500	Not Detected	2700	Not Detected
Cyclohexane	500	Not Detected	1700	Not Detected
Carbon Tetrachloride	500	Not Detected	3100	Not Detected
2,2,4-Trimethylpentane	500	Not Detected	2300	Not Detected
Benzene	500	Not Detected	1600	Not Detected
1,2-Dichloroethane	500	Not Detected	2000	Not Detected
Heptane	500	Not Detected	2000	Not Detected
Trichloroethene	500	86000	2700	460000
1,2-Dichloropropane	500	Not Detected	2300	Not Detected
1,4-Dioxane	2000	Not Detected	7200	Not Detected
Bromodichloromethane	500	Not Detected	3400	Not Detected
cis-1,3-Dichloropropene	500	Not Detected	2300	Not Detected
4-Methyl-2-pentanone	500	Not Detected	2000	Not Detected
Toluene	500	Not Detected	1900	Not Detected
trans-1,3-Dichloropropene	500	Not Detected	2300	Not Detected
1,1,2-Trichloroethane	500	Not Detected	2700	Not Detected



# AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SVE201INF (SP201)

Lab ID#: 0603223-02A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	8031113	Date of Collection:	3/9/06
Dil. Factor:	1000	Date of Analysis:	3/11/06 06:25 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Tetrachloroethene	500	Not Detected	3400	Not Detected
2-Hexanone	2000	Not Detected	8200	Not Detected
Dibromochloromethane	500	Not Detected	4200	Not Detected
1,2-Dibromoethane (EDB)	500	Not Detected	3800	Not Detected
Chlorobenzene	500	Not Detected	2300	Not Detected
Ethyl Benzene	500	Not Detected	2200	Not Detected
m,p-Xylene	500	Not Detected	2200	Not Detected
o-Xylene	500	Not Detected	2200	Not Detected
Styrene	500	Not Detected	2100	Not Detected
Bromoform	500	Not Detected	5200	Not Detected
Cumene	500	Not Detected	2400	Not Detected
1,1,2,2-Tetrachloroethane	500	Not Detected	3400	Not Detected
Propylbenzene	500	Not Detected	2400	Not Detected
4-Ethyltoluene	500	Not Detected	2400	Not Detected
1,3,5-Trimethylbenzene	500	Not Detected	2400	Not Detected
1,2,4-Trimethylbenzene	500	Not Detected	2400	Not Detected
1,3-Dichlorobenzene	500	Not Detected	3000	Not Detected
1,4-Dichlorobenzene	500	Not Detected	3000	Not Detected
alpha-Chlorotoluene	500	Not Detected	2600	Not Detected
1,2-Dichlorobenzene	500	Not Detected	3000	Not Detected
1,2,4-Trichlorobenzene	2000	Not Detected	15000	Not Detected
Hexachlorobutadiene	2000	Not Detected	21000	Not Detected

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	107	70-130
4-Bromofluorobenzene	89	70-130



# AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SVE Combined INF (SP301)

Lab ID#: 0603223-03A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	8031114	Date of Collection: 3/9/06
Dil. Factor:	667	Date of Analysis: 3/11/06 06:53 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	330	Not Detected	1600	Not Detected
Freon 114	330	Not Detected	2300	Not Detected
Chloromethane	1300	Not Detected	2800	Not Detected
Vinyl Chloride	330	Not Detected	850	Not Detected
1,3-Butadiene	330	Not Detected	740	Not Detected
Bromomethane	330	Not Detected	1300	Not Detected
Chloroethane	330	Not Detected	880	Not Detected
Freon 11	330	Not Detected	1900	Not Detected
Ethanol	1300	Not Detected	2500	Not Detected
Freon 113	330	Not Detected	2600	Not Detected
1,1-Dichloroethene	330	Not Detected	1300	Not Detected
Acetone	1300	Not Detected	3200	Not Detected
2-Propanol	1300	Not Detected	3300	Not Detected
Carbon Disulfide	330	Not Detected	1000	Not Detected
3-Chloropropene	1300	Not Detected	4200	Not Detected
Methylene Chloride	330	Not Detected	1200	Not Detected
Methyl tert-butyl ether	330	Not Detected	1200	Not Detected
trans-1,2-Dichloroethene	330	Not Detected	1300	Not Detected
Hexane	330	Not Detected	1200	Not Detected
1,1-Dichloroethane	330	Not Detected	1300	Not Detected
2-Butanone (Methyl Ethyl Ketone)	330	Not Detected	980	Not Detected
cis-1,2-Dichloroethene	330	1600	1300	6200
Tetrahydrofuran	330	Not Detected	980	Not Detected
Chloroform	330	Not Detected	1600	Not Detected
1,1,1-Trichloroethane	330	Not Detected	1800	Not Detected
Cyclohexane	330	Not Detected	1100	Not Detected
Carbon Tetrachloride	330	Not Detected	2100	Not Detected
2,2,4-Trimethylpentane	330	Not Detected	1600	Not Detected
Benzene	330	Not Detected	1100	Not Detected
1,2-Dichloroethane	330	Not Detected	1300	Not Detected
Heptane	330	Not Detected	1400	Not Detected
Trichloroethene	330	60000	1800	320000
1,2-Dichloropropane	330	Not Detected	1500	Not Detected
1,4-Dioxane	1300	Not Detected	4800	Not Detected
Bromodichloromethane	330	Not Detected	2200	Not Detected
cis-1,3-Dichloropropene	330	Not Detected	1500	Not Detected
4-Methyl-2-pentanone	330	Not Detected	1400	Not Detected
Toluene	330	Not Detected	1200	Not Detected
trans-1,3-Dichloropropene	330	Not Detected	1500	Not Detected
1,1,2-Trichloroethane	330	Not Detected	1800	Not Detected



# AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SVE Combined INF (SP301)

Lab ID#: 0603223-03A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	8031114	Date of Collection:	3/9/06
Dil. Factor:	667	Date of Analysis:	3/11/06 06:53 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Tetrachloroethene	330	Not Detected	2300	Not Detected
2-Hexanone	1300	Not Detected	5500	Not Detected
Dibromochloromethane	330	Not Detected	2800	Not Detected
1,2-Dibromoethane (EDB)	330	Not Detected	2600	Not Detected
Chlorobenzene	330	Not Detected	1500	Not Detected
Ethyl Benzene	330	Not Detected	1400	Not Detected
m,p-Xylene	330	Not Detected	1400	Not Detected
o-Xylene	330	Not Detected	1400	Not Detected
Styrene	330	Not Detected	1400	Not Detected
Bromoform	330	Not Detected	3400	Not Detected
Cumene	330	Not Detected	1600	Not Detected
1,1,2,2-Tetrachloroethane	330	Not Detected	2300	Not Detected
Propylbenzene	330	Not Detected	1600	Not Detected
4-Ethyltoluene	330	Not Detected	1600	Not Detected
1,3,5-Trimethylbenzene	330	Not Detected	1600	Not Detected
1,2,4-Trimethylbenzene	330	Not Detected	1600	Not Detected
1,3-Dichlorobenzene	330	Not Detected	2000	Not Detected
1,4-Dichlorobenzene	330	Not Detected	2000	Not Detected
alpha-Chlorotoluene	330	Not Detected	1700	Not Detected
1,2-Dichlorobenzene	330	Not Detected	2000	Not Detected
1,2,4-Trichlorobenzene	1300	Not Detected	9900	Not Detected
Hexachlorobutadiene	1300	Not Detected	14000	Not Detected

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	101	70-130
4-Bromofluorobenzene	88	70-130

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?  
Compliance Monitoring

Nashville Division  
2960 Foster Creighton  
Nashville, TN 37204  
Phone: 615-726-0177  
Fax: 615-726-3404


**TestAmerica**  
ANALYTICAL TESTING CORPORATION

Client Name	515 ENVIRONMENTAL INC	Client #	8403
Address:	1970 S. LORE MARSH RD		
City/State/Zip Code:	ANN ARBOR MI 48106		
Project Manager:	MARK V. HEN		
Telephone Number:	330 666 1542	Fax:	330 666 7443
Sampler Name: (Print Name)	J. PATRICK CLEGG		
Sampler Signature:	J. Patrick Clegg		

Project Name:	17 COLLETHVILLE
Project #:	031091
Site/Location ID:	COLLETHVILLE
Report To:	MARKE V. ALBERT
Invoice To:	555 EMMERSON RD
Quote #:	090204 02435
PO#:	74008

QC Deliverables	None	Level 2	(Batch QC)	Level 3	Level 4	Other

REMARKS

Rush (surcharges may apply) \_\_\_\_\_  
Date Needed: \_\_\_\_\_  
Fax Results:  N

**SAMPLE ID**

N 

1A	5VE 101 INF (5P101)
02A	5VE 201 INF (5P201)
03A	5VE Combined INF (5P301)
04A	5VE INT (5P302)
05A	5VE EXT (5P303)

OK

**Special instructions:**

STANDARD JHT Email to JTO121@col.com

Init Lab Temp: CUSTODY SEAL INTACT?

Rec Lab Temp: Y NONE TEMP

Custody Seals: N/A

Bottles Supplied by Test America: Y N

1. *Chlorophyll a* and *Chlorophyll b* were determined by the method of Lichtenthaler and Whistler (1973). The total chlorophyll content was determined by the method of Arar and Cook (1980). The carotenoid content was determined by the method of Lichtenthaler and Whistler (1973). The total carotenoid content was determined by the method of Arar and Cook (1980). The total protein content was determined by the method of Lowry et al. (1951). The total lipid content was determined by the method of Bligh and Dyer (1959). The total carbohydrate content was determined by the method of Dubois and Gilles (1950). The total nucleic acid content was determined by the method of Burton (1956). The total ash content was determined by the method of AOAC (1990). The total moisture content was determined by the method of AOAC (1990). The total dry matter content was determined by the method of AOAC (1990). The total organic acid content was determined by the method of AOAC (1990). The total alkaloid content was determined by the method of AOAC (1990). The total saponin content was determined by the method of AOAC (1990). The total tannin content was determined by the method of AOAC (1990). The total flavonoid content was determined by the method of AOAC (1990). The total phenol content was determined by the method of AOAC (1990). The total terpenoid content was determined by the method of AOAC (1990). The total steroid content was determined by the method of AOAC (1990). The total glycoside content was determined by the method of AOAC (1990). The total alkaloid content was determined by the method of AOAC (1990). The total saponin content was determined by the method of AOAC (1990). The total tannin content was determined by the method of AOAC (1990). The total flavonoid content was determined by the method of AOAC (1990). The total phenol content was determined by the method of AOAC (1990). The total terpenoid content was determined by the method of AOAC (1990). The total steroid content was determined by the method of AOAC (1990). The total glycoside content was determined by the method of AOAC (1990).

Method of Shipment

9580 LHAS 958: 27/2/21

7580 + 479 5958 #112741



**AIR TOXICS LTD.**

AN ENVIRONMENTAL ANALYTICAL LABORATORY

RECEIVED MAR 27 2006

**WORK ORDER #: 0603446**

Work Order Summary

<b>CLIENT:</b>	Mr. Mark Allen SAS Environmental 1270 S. Cleveland Massillon Road Bldg.A Akron, OH 44321	<b>BILL TO:</b>	Mr. Mark Allen SAS Environmental 1270 S. Cleveland Massillon Road Bldg.A Akron, OH 44321
<b>PHONE:</b>	330-666-1546	<b>P.O. #</b>	7608
<b>FAX:</b>	330-666-7443	<b>PROJECT #</b>	031091 Collierville
<b>DATE RECEIVED:</b>	03/22/2006	<b>CONTACT:</b>	Susan Alaniz
<b>DATE COMPLETED:</b>	03/23/2006		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT</u> <u>VAC./PRES.</u>
01A	Combined INF (SP301)	Modified TO-15	Tedlar Bag
02A	SVE INT (SP302)	Modified TO-15	Tedlar Bag
03A	Lab Blank	Modified TO-15	NA
04A	CCV	Modified TO-15	NA
05A	LCS	Modified TO-15	NA

CERTIFIED BY:

*Linda A. Fruman*

Laboratory Director

DATE: 03/23/06

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004  
NY NELAP - 11291, UT NELAP - 9166389892

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,  
Accreditation number: E87680, Effective date: 07/01/05, Expiration date: 06/30/06

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630  
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020



# AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

## LABORATORY NARRATIVE

Modified TO-15  
SAS Environmental  
Workorder# 0603446

Two 1 Liter Tedlar Bag samples were received on March 22, 2006. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 0.2 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

<i>Requirement</i>	<i>TO-15</i>	<i>ATL Modifications</i>
Daily CCV	+/- 30% Difference	<= 30% Difference with two allowed out up to <=40%.; flag and narrate outliers
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

### Receiving Notes

There were no receiving discrepancies.

### Analytical Notes

The reported LCS for each daily batch has been derived from more than one analytical file.

### Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector



**AIR TOXICS LTD.**

AN ENVIRONMENTAL ANALYTICAL LABORATORY

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r1-File was requantified for the purpose of reissue





# AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: Combined INF (SP301)

Lab ID#: 0603446-01A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	f032210	Date of Collection:	3/21/06	
Dil. Factor:	400	Date of Analysis:	3/22/06 04:20 PM	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	200	Not Detected	990	Not Detected
Freon 114	200	Not Detected	1400	Not Detected
Chloromethane	800	Not Detected	1600	Not Detected
Vinyl Chloride	200	Not Detected	510	Not Detected
1,3-Butadiene	200	Not Detected	440	Not Detected
Bromomethane	200	Not Detected	780	Not Detected
Chloroethane	200	Not Detected	530	Not Detected
Freon 11	200	Not Detected	1100	Not Detected
Ethanol	800	Not Detected	1500	Not Detected
Freon 113	200	Not Detected	1500	Not Detected
1,1-Dichloroethene	200	Not Detected	790	Not Detected
Acetone	800	Not Detected	1900	Not Detected
2-Propanol	800	1000	2000	2500
Carbon Disulfide	200	Not Detected	620	Not Detected
3-Chloropropene	800	Not Detected	2500	Not Detected
Methylene Chloride	200	Not Detected	690	Not Detected
Methyl tert-butyl ether	200	Not Detected	720	Not Detected
trans-1,2-Dichloroethene	200	Not Detected	790	Not Detected
Hexane	200	Not Detected	700	Not Detected
1,1-Dichloroethane	200	Not Detected	810	Not Detected
2-Butanone (Methyl Ethyl Ketone)	200	Not Detected	590	Not Detected
cis-1,2-Dichloroethene	200	1700	790	6600
Tetrahydrofuran	200	Not Detected	590	Not Detected
Chloroform	200	Not Detected	980	Not Detected
1,1,1-Trichloroethane	200	Not Detected	1100	Not Detected
Cyclohexane	200	4800	690	17000
Carbon Tetrachloride	200	Not Detected	1200	Not Detected
2,2,4-Trimethylpentane	200	Not Detected	930	Not Detected
Benzene	200	Not Detected	640	Not Detected
1,2-Dichloroethane	200	Not Detected	810	Not Detected
Heptane	200	990	820	4100
Trichloroethene	200	63000	1100	340000
1,2-Dichloropropane	200	Not Detected	920	Not Detected
1,4-Dioxane	800	Not Detected	2900	Not Detected
Bromodichloromethane	200	Not Detected	1300	Not Detected
cis-1,3-Dichloropropene	200	Not Detected	910	Not Detected
4-Methyl-2-pentanone	200	Not Detected	820	Not Detected
Toluene	200	Not Detected	750	Not Detected
trans-1,3-Dichloropropene	200	Not Detected	910	Not Detected
1,1,2-Trichloroethane	200	Not Detected	1100	Not Detected



# AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: Combined INF (SP301)

Lab ID#: 0603446-01A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	f032210	Date of Collection:	3/21/06
Dil. Factor:	400	Date of Analysis:	3/22/06 04:20 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Tetrachloroethene	200	Not Detected	1400	Not Detected
2-Hexanone	800	Not Detected	3300	Not Detected
Dibromochloromethane	200	Not Detected	1700	Not Detected
1,2-Dibromoethane (EDB)	200	Not Detected	1500	Not Detected
Chlorobenzene	200	Not Detected	920	Not Detected
Ethyl Benzene	200	Not Detected	870	Not Detected
m,p-Xylene	200	Not Detected	870	Not Detected
o-Xylene	200	Not Detected	870	Not Detected
Styrene	200	Not Detected	850	Not Detected
Bromoform	200	Not Detected	2100	Not Detected
Cumene	200	Not Detected	980	Not Detected
1,1,2,2-Tetrachloroethane	200	Not Detected	1400	Not Detected
Propylbenzene	200	Not Detected	980	Not Detected
4-Ethyltoluene	200	Not Detected	980	Not Detected
1,3,5-Trimethylbenzene	200	Not Detected	980	Not Detected
1,2,4-Trimethylbenzene	200	Not Detected	980	Not Detected
1,3-Dichlorobenzene	200	Not Detected	1200	Not Detected
1,4-Dichlorobenzene	200	Not Detected	1200	Not Detected
alpha-Chlorotoluene	200	Not Detected	1000	Not Detected
1,2-Dichlorobenzene	200	Not Detected	1200	Not Detected
1,2,4-Trichlorobenzene	800	Not Detected	5900	Not Detected
Hexachlorobutadiene	800	Not Detected	8500	Not Detected

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	106	70-130
4-Bromofluorobenzene	100	70-130

Vto  
Vto

0680 6577 5958 H. 11.7.70

[illegible]

180 BLUE KAYAKS TO WINE D  
PO BOX 95630  
Nashville Division  
2960 Foster-Craigton  
Nashville, TN 37204  
Phone: 615-726-0177 Fax: 615-726-3404  
ANALYTICAL TESTING CORPORATION  
TestAmerica

Client Name  
SAS ENVIRONMENTAL INC.  
Client #

Address  
270 S. GLENN ST. #100  
Nashville, TN 37203

City/State/Zip Code  
Nashville, TN 37203

Project Manager  
MARK W. ALLEN

Telephone Number  
615-666-1546

Sample Name: (Print Name)  
Foster-Craigton

Sampler Signature  
J. Foster-Craigton

Project Name: UT Compliance  
Project #:  
031091

Site/Location ID:  
Compliance  
State: TN

Report To:  
MARK W. ALLEN

Invoice To:  
SAS ENVIRONMENTAL INC.

Quote #:  
090204 ALK 99

PO #:  
76028

To assist us in using the proper analytical methods,  
is this work being conducted for regulatory purposes?  
Compliance Monitoring

0603446

RECEIVED APR 03 2006



**AIR TOXICS LTD.**

AN ENVIRONMENTAL ANALYTICAL LABORATORY

**WORK ORDER #: 0603604**

Work Order Summary

**CLIENT:** Mr. Mark Allen  
SAS Environmental  
1270 S. Cleveland Massillon Road  
Bldg.A  
Akron, OH 44321

**BILL TO:** Mr. Mark Allen  
SAS Environmental  
1270 S. Cleveland Massillon Road  
Bldg.A  
Akron, OH 44321

**PHONE:** 330-666-1546

**P.O. #** 7608

**FAX:** 330-666-7443

**PROJECT #** 031091 UT Collierville

**DATE RECEIVED:** 03/29/2006

**CONTACT:** Susan Alaniz

**DATE COMPLETED:** 03/30/2006

**FRACTION #**

**NAME**

**TEST**

**RECEIPT**  
**VAC/PRES.**

01A Combined INF (SP301)  
02A SVE INT (SP302)  
03A Lab Blank  
04A CCV  
05A LCS

Modified TO-15  
Modified TO-15  
Modified TO-15  
Modified TO-15  
Modified TO-15

Tedlar Bag  
Tedlar Bag  
NA  
NA  
NA

CERTIFIED BY:

Laboratory Director

DATE: 03/30/06

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004  
NY NELAP - 11291, UT NELAP - 9166389892

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,

Accreditation number: E87680, Effective date: 07/01/05, Expiration date: 06/30/06

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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# AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

## LABORATORY NARRATIVE

Modified TO-15

SAS Environmental

Workorder# 0603604

Two 1 Liter Tedlar Bag samples were received on March 29, 2006. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 0.2 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

<i>Requirement</i>	<i>TO-15</i>	<i>ATL Modifications</i>
Daily CCV	+/- 30% Difference	<= 30% Difference with two allowed out up to <=40%.; flag and narrate outliers
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

### Receiving Notes

There were no receiving discrepancies.

### Analytical Notes

All Quality Control Limit failures and affected sample results are noted by flags. Each flag is defined at the bottom of this Case Narrative and on each Sample Result Summary page. Target compound non-detects in the samples that are associated with high bias in QC analyses have not been flagged.

The reported LCS for each daily batch has been derived from more than one analytical file.

### Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ - Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.



**AIR TOXICS LTD.**

AN ENVIRONMENTAL ANALYTICAL LABORATORY

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File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



**AIR TOXICS LTD.**

AN ENVIRONMENTAL ANALYTICAL LABORATORY

**Summary of Detected Compounds**  
**MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN**

Client Sample ID: Combined INF (SP301)

Lab ID#: 0603604-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Propanol	470	530	1200	1300
Carbon Disulfide	120	120	360	360
cis-1,2-Dichloroethene	120	760	460	3000
Cyclohexane	120	2400	400	8400
Heptane	120	650	480	2600
Trichloroethene	120	32000	630	170000



# AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: Combined INF (SP301)

Lab ID#: 0603604-01A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	1032922	Date of Collection:	3/28/06	
Dil. Factor:	235	Date of Analysis:	3/30/06 01:19 AM	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	120	Not Detected	580	Not Detected
Freon 114	120	Not Detected	820	Not Detected
Chloromethane	470	Not Detected	970	Not Detected
Vinyl Chloride	120	Not Detected	300	Not Detected
1,3-Butadiene	120	Not Detected	260	Not Detected
Bromomethane	120	Not Detected	460	Not Detected
Chloroethane	120	Not Detected	310	Not Detected
Freon 11	120	Not Detected	660	Not Detected
Ethanol	470	Not Detected	880	Not Detected
Freon 113	120	Not Detected	900	Not Detected
1,1-Dichloroethene	120	Not Detected	460	Not Detected
Acetone	470	Not Detected	1100	Not Detected
2-Propanol	470	530	1200	1300
Carbon Disulfide	120	120	360	360
3-Chloropropene	470	Not Detected	1500	Not Detected
Methylene Chloride	120	Not Detected	410	Not Detected
Methyl tert-butyl ether	120	Not Detected	420	Not Detected
trans-1,2-Dichloroethene	120	Not Detected	460	Not Detected
Hexane	120	Not Detected U J	410	Not Detected U J
1,1-Dichloroethane	120	Not Detected	480	Not Detected
2-Butanone (Methyl Ethyl Ketone)	120	Not Detected	350	Not Detected
cis-1,2-Dichloroethene	120	760	460	3000
Tetrahydrofuran	120	Not Detected	350	Not Detected
Chloroform	120	Not Detected	570	Not Detected
1,1,1-Trichloroethane	120	Not Detected	640	Not Detected
Cyclohexane	120	2400	400	8400
Carbon Tetrachloride	120	Not Detected	740	Not Detected
2,2,4-Trimethylpentane	120	Not Detected U J	550	Not Detected U J
Benzene	120	Not Detected	380	Not Detected
1,2-Dichloroethane	120	Not Detected	480	Not Detected
Heptane	120	650	480	2600
Trichloroethene	120	32000	630	170000
1,2-Dichloropropane	120	Not Detected	540	Not Detected
1,4-Dioxane	470	Not Detected	1700	Not Detected
Bromodichloromethane	120	Not Detected	790	Not Detected
cis-1,3-Dichloropropene	120	Not Detected	530	Not Detected
4-Methyl-2-pentanone	120	Not Detected	480	Not Detected
Toluene	120	Not Detected	440	Not Detected
trans-1,3-Dichloropropene	120	Not Detected	530	Not Detected
1,1,2-Trichloroethane	120	Not Detected	640	Not Detected





# AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: Combined INF (SP301)

Lab ID#: 0603604-01A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	1032922	Date of Collection:	3/28/06
Dil. Factor:	235	Date of Analysis:	3/30/06 01:19 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Tetrachloroethene	120	Not Detected	800	Not Detected
2-Hexanone	470	Not Detected	1900	Not Detected
Dibromochloromethane	120	Not Detected	1000	Not Detected
1,2-Dibromoethane (EDB)	120	Not Detected	900	Not Detected
Chlorobenzene	120	Not Detected	540	Not Detected
Ethyl Benzene	120	Not Detected	510	Not Detected
m,p-Xylene	120	Not Detected	510	Not Detected
o-Xylene	120	Not Detected	510	Not Detected
Styrene	120	Not Detected	500	Not Detected
Bromoform	120	Not Detected	1200	Not Detected
Cumene	120	Not Detected	580	Not Detected
1,1,2,2-Tetrachloroethane	120	Not Detected	810	Not Detected
Propylbenzene	120	Not Detected	580	Not Detected
4-Ethyltoluene	120	Not Detected	580	Not Detected
1,3,5-Trimethylbenzene	120	Not Detected	580	Not Detected
1,2,4-Trimethylbenzene	120	Not Detected	580	Not Detected
1,3-Dichlorobenzene	120	Not Detected	710	Not Detected
1,4-Dichlorobenzene	120	Not Detected	710	Not Detected
alpha-Chlorotoluene	120	Not Detected	610	Not Detected
1,2-Dichlorobenzene	120	Not Detected	710	Not Detected
1,2,4-Trichlorobenzene	470	Not Detected	3500	Not Detected
Hexachlorobutadiene	470	Not Detected	5000	Not Detected

UU = Non-detected compound associated with low bias in the CCV

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	117	70-130
4-Bromofluorobenzene	110	70-130

# TestAmerica



# AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

## WORK ORDER #: 0604050B

### Work Order Summary

CLIENT:	Mr. Mark Allen SAS Environmental 1270 S. Cleveland Massillon Road Bldg.A Akron, OH 44321	BILL TO:	Mr. Mark Allen SAS Environmental 1270 S. Cleveland Massillon Road Bldg.A Akron, OH 44321
PHONE:	330-666-1546	P.O. #	7608
FAX:	330-666-7443	PROJECT #	0301091 UT Collierville
DATE RECEIVED:	04/05/2006	CONTACT:	Susan Alaniz
DATE COMPLETED:	04/18/2006		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT</u> <u>VAC/PRES.</u>
01A	SVE 101 INF (SP101)	Modified TO-15	Tedlar Bag
02A	SVE 201 INF (SP201)	Modified TO-15	Tedlar Bag
05A	SVE EFF (SP303)	Modified TO-15	Tedlar Bag
05AA	SVE EFF (SP303) Duplicate	Modified TO-15	Tedlar Bag
06A	Lab Blank	Modified TO-15	NA
07A	CCV	Modified TO-15	NA
08A	LCS	Modified TO-15	NA

CERTIFIED BY:

Laboratory Director

DATE: 04/18/06

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004  
NY NELAP - 11291, UT NELAP - 9166389892

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,

Accreditation number: E87680, Effective date: 07/01/05, Expiration date: 06/30/06

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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# AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

## LABORATORY NARRATIVE Modified TO-15 SAS Environmental Workorder# 0604050B

Three 1 Liter Tedlar Bag samples were received on April 05, 2006. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 0.2 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

<i>Requirement</i>	<i>TO-15</i>	<i>ATL Modifications</i>
Daily CCV	+/- 30% Difference	<= 30% Difference with two allowed out up to <=40%; flag and narrate outliers
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

### Receiving Notes

There were no receiving discrepancies.

### Analytical Notes

The reported LCS for each daily batch has been derived from more than one analytical file.

### Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:



## AIR TOXICS LTD.

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



# AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

## Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SVE 101 INF (SP101)

Lab ID#: 0604050B-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	7.2	42	18	110
trans-1,2-Dichloroethene	7.2	13	28	53
cis-1,2-Dichloroethene	7.2	990	28	3900
Trichloroethene	7.2	2100	38	11000

Client Sample ID: SVE 201 INF (SP201)

Lab ID#: 0604050B-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
cis-1,2-Dichloroethene	330	1300	1300	5300
Trichloroethene	330	66000	1800	360000



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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SVE 101 INF (SP101)

Lab ID#: 0604050B-01A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	f040527	Date of Collection:	4/4/06	
Dil. Factor:	14.3	Date of Analysis:	4/6/06 05:52 AM	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	7.2	Not Detected	35	Not Detected
Freon 114	7.2	Not Detected	50	Not Detected
Chloromethane	29	Not Detected	59	Not Detected
Vinyl Chloride	7.2	42	18	110
1,3-Butadiene	7.2	Not Detected	16	Not Detected
Bromomethane	7.2	Not Detected	28	Not Detected
Chloroethane	7.2	Not Detected	19	Not Detected
Freon 11	7.2	Not Detected	40	Not Detected
Ethanol	29	Not Detected	54	Not Detected
Freon 113	7.2	Not Detected	55	Not Detected
1,1-Dichloroethene	7.2	Not Detected	28	Not Detected
Acetone	29	Not Detected	68	Not Detected
2-Propanol	29	Not Detected	70	Not Detected
Carbon Disulfide	7.2	Not Detected	22	Not Detected
3-Chloropropene	29	Not Detected	90	Not Detected
Methylene Chloride	7.2	Not Detected	25	Not Detected
Methyl tert-butyl ether	7.2	Not Detected	26	Not Detected
trans-1,2-Dichloroethene	7.2	13	28	53
Hexane	7.2	Not Detected	25	Not Detected
1,1-Dichloroethane	7.2	Not Detected	29	Not Detected
2-Butanone (Methyl Ethyl Ketone)	7.2	Not Detected	21	Not Detected
cis-1,2-Dichloroethene	7.2	990	28	3900
Tetrahydrofuran	7.2	Not Detected	21	Not Detected
Chloroform	7.2	Not Detected	35	Not Detected
1,1,1-Trichloroethane	7.2	Not Detected	39	Not Detected
Cyclohexane	7.2	Not Detected	25	Not Detected
Carbon Tetrachloride	7.2	Not Detected	45	Not Detected
2,2,4-Trimethylpentane	7.2	Not Detected	33	Not Detected
Benzene	7.2	Not Detected	23	Not Detected
1,2-Dichloroethane	7.2	Not Detected	29	Not Detected
Heptane	7.2	Not Detected	29	Not Detected
Trichloroethene	7.2	2100	38	11 000
1,2-Dichloropropane	7.2	Not Detected	33	Not Detected
1,4-Dioxane	29	Not Detected	100	Not Detected
Bromodichloromethane	7.2	Not Detected	48	Not Detected
cis-1,3-Dichloropropene	7.2	Not Detected	32	Not Detected
4-Methyl-2-pentanone	7.2	Not Detected	29	Not Detected
Toluene	7.2	Not Detected	27	Not Detected
trans-1,3-Dichloropropene	7.2	Not Detected	32	Not Detected
1,1,2-Trichloroethane	7.2	Not Detected	39	Not Detected



# AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SVE 101 INF (SP101)

Lab ID#: 0604050B-01A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	f040527	Date of Collection:	4/4/06
Dil. Factor:	14.3	Date of Analysis:	4/6/06 05:52 AM

Compound	Rot. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Tetrachloroethene	7.2	Not Detected	48	Not Detected
2-Hexanone	29	Not Detected	120	Not Detected
Dibromochloromethane	7.2	Not Detected	61	Not Detected
1,2-Dibromoethane (EDB)	7.2	Not Detected	55	Not Detected
Chlorobenzene	7.2	Not Detected	33	Not Detected
Ethyl Benzene	7.2	Not Detected	31	Not Detected
m,p-Xylene	7.2	Not Detected	31	Not Detected
o-Xylene	7.2	Not Detected	31	Not Detected
Styrene	7.2	Not Detected	30	Not Detected
Bromoform	7.2	Not Detected	74	Not Detected
Cumene	7.2	Not Detected	35	Not Detected
1,1,2,2-Tetrachloroethane	7.2	Not Detected	49	Not Detected
Propylbenzene	7.2	Not Detected	35	Not Detected
4-Ethyltoluene	7.2	Not Detected	35	Not Detected
1,3,5-Trimethylbenzene	7.2	Not Detected	35	Not Detected
1,2,4-Trimethylbenzene	7.2	Not Detected	35	Not Detected
1,3-Dichlorobenzene	7.2	Not Detected	43	Not Detected
1,4-Dichlorobenzene	7.2	Not Detected	43	Not Detected
alpha-Chlorotoluene	7.2	Not Detected	37	Not Detected
1,2-Dichlorobenzene	7.2	Not Detected	43	Not Detected
1,2,4-Trichlorobenzene	29	Not Detected	210	Not Detected
Hexachlorobutadiene	29	Not Detected	300	Not Detected

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	109	70-130
4-Bromofluorobenzene	103	70-130





# AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SVE 201 INF (SP201)

Lab ID#: 0604050B-02A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	f040530	Date of Collection:	4/4/06
Dil. Factor:	667	Date of Analysis:	4/6/06 08:27 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	330	Not Detected	1600	Not Detected
Freon 114	330	Not Detected	2300	Not Detected
Chloromethane	1300	Not Detected	2800	Not Detected
Vinyl Chloride	330	Not Detected	850	Not Detected
1,3-Butadiene	330	Not Detected	740	Not Detected
Bromomethane	330	Not Detected	1300	Not Detected
Chloroethane	330	Not Detected	880	Not Detected
Freon 11	330	Not Detected	1900	Not Detected
Ethanol	1300	Not Detected	2500	Not Detected
Freon 113	330	Not Detected	2600	Not Detected
1,1-Dichloroethene	330	Not Detected	1300	Not Detected
Acetone	1300	Not Detected	3200	Not Detected
2-Propanol	1300	Not Detected	3300	Not Detected
Carbon Disulfide	330	Not Detected	1000	Not Detected
3-Chloropropene	1300	Not Detected	4200	Not Detected
Methylene Chloride	330	Not Detected	1200	Not Detected
Methyl tert-butyl ether	330	Not Detected	1200	Not Detected
trans-1,2-Dichloroethene	330	Not Detected	1300	Not Detected
Hexane	330	Not Detected	1200	Not Detected
1,1-Dichloroethane	330	Not Detected	1300	Not Detected
2-Butanone (Methyl Ethyl Ketone)	330	Not Detected	980	Not Detected
cis-1,2-Dichloroethene	330	1300	1300	5300
Tetrahydrofuran	330	Not Detected	980	Not Detected
Chloroform	330	Not Detected	1600	Not Detected
1,1,1-Trichloroethane	330	Not Detected	1800	Not Detected
Cyclohexane	330	Not Detected	1100	Not Detected
Carbon Tetrachloride	330	Not Detected	2100	Not Detected
2,2,4-Trimethylpentane	330	Not Detected	1600	Not Detected
Benzene	330	Not Detected	1100	Not Detected
1,2-Dichloroethane	330	Not Detected	1300	Not Detected
Heptane	330	Not Detected	1400	Not Detected
Trichloroethene	330	66000	1800	360000
1,2-Dichloropropane	330	Not Detected	1500	Not Detected
1,4-Dioxane	1300	Not Detected	4800	Not Detected
Bromodichloromethane	330	Not Detected	2200	Not Detected
cis-1,3-Dichloropropene	330	Not Detected	1500	Not Detected
4-Methyl-2-pentanone	330	Not Detected	1400	Not Detected
Toluene	330	Not Detected	1200	Not Detected
trans-1,3-Dichloropropene	330	Not Detected	1500	Not Detected
1,1,2-Trichloroethane	330	Not Detected	1800	Not Detected



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Client Sample ID: SVE 201 INF (SP201)

Lab ID#: 0604050B-02A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	f040530	Date of Collection: 4/4/06
Dil. Factor:	667	Date of Analysis: 4/6/06 08:27 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Tetrachloroethene	330	Not Detected	2300	Not Detected
2-Hexanone	1300	Not Detected	5500	Not Detected
Dibromochloromethane	330	Not Detected	2800	Not Detected
1,2-Dibromoethane (EDB)	330	Not Detected	2600	Not Detected
Chlorobenzene	330	Not Detected	1500	Not Detected
Ethyl Benzene	330	Not Detected	1400	Not Detected
m,p-Xylene	330	Not Detected	1400	Not Detected
o-Xylene	330	Not Detected	1400	Not Detected
Styrene	330	Not Detected	1400	Not Detected
Bromoform	330	Not Detected	3400	Not Detected
Cumene	330	Not Detected	1600	Not Detected
1,1,2,2-Tetrachloroethane	330	Not Detected	2300	Not Detected
Propylbenzene	330	Not Detected	1600	Not Detected
4-Ethyltoluene	330	Not Detected	1600	Not Detected
1,3,5-Trimethylbenzene	330	Not Detected	1600	Not Detected
1,2,4-Trimethylbenzene	330	Not Detected	1600	Not Detected
1,3-Dichlorobenzene	330	Not Detected	2000	Not Detected
1,4-Dichlorobenzene	330	Not Detected	2000	Not Detected
alpha-Chlorotoluene	330	Not Detected	1700	Not Detected
1,2-Dichlorobenzene	330	Not Detected	2000	Not Detected
1,2,4-Trichlorobenzene	1300	Not Detected	9900	Not Detected
Hexachlorobutadiene	1300	Not Detected	14000	Not Detected

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	111	70-130
4-Bromofluorobenzene	99	70-130

APR 21 11 47 AM '70 ✓ Fed Ex



# AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

## WORK ORDER #: 0604050A

### Work Order Summary

<b>CLIENT:</b>	Mr. Mark Allen SAS Environmental 1270 S. Cleveland Massillon Road Bldg.A Akron, OH 44321	<b>BILL TO:</b>	Mr. Mark Allen SAS Environmental 1270 S. Cleveland Massillon Road Bldg.A Akron, OH 44321
<b>PHONE:</b>	330-666-1546	<b>P.O. #</b>	7608
<b>FAX:</b>	330-666-7443	<b>PROJECT #</b>	0301091 UT Collierville
<b>DATE RECEIVED:</b>	04/05/2006	<b>CONTACT:</b>	Susan Alaniz
<b>DATE COMPLETED:</b>	04/06/2006		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC/PRES.</u>
03A	SVE Combined INF (SP301)	Modified TO-15	Tedlar Bag
04A	SVE INT (SP302)	Modified TO-15	Tedlar Bag
05A	Lab Blank	Modified TO-15	NA
06A	CCV	Modified TO-15	NA
07A	LCS	Modified TO-15	NA

CERTIFIED BY:

Laboratory Director

DATE: 04/06/06

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004  
NY NELAP - 11291, UT NELAP - 9166389892

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,

Accreditation number: E87680, Effective date: 07/01/05, Expiration date: 06/30/06

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630

(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020



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AN ENVIRONMENTAL ANALYTICAL LABORATORY

## LABORATORY NARRATIVE

Modified TO-15

SAS Environmental

Workorder# 0604050A

Two 1 Liter Tedlar Bag samples were received on April 05, 2006. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 0.2 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

<i>Requirement</i>	<i>TO-15</i>	<i>ATL Modifications</i>
Daily CCV	+/- 30% Difference	<= 30% Difference with two allowed out up to <=40%; flag and narrate outliers
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

### Receiving Notes

There were no receiving discrepancies.

### Analytical Notes

The reported LCS for each daily batch has been derived from more than one analytical file.

### Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified



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b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



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**Summary of Detected Compounds**  
**MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN**

**Client Sample ID: SVE Combined INF (SP301)**

**Lab ID#: 0604050A-03A**

<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (uG/m3)</b>	<b>Amount (uG/m3)</b>
cis-1,2-Dichloroethene	220	1100	880	4500
Trichloroethene	220	44000	1200	240000



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Client Sample ID: SVE Combined INF (SP301)

Lab ID#: 0604050A-03A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	f040526	Date of Collection:	4/4/06	
Dil. Factor:	444	Date of Analysis:	4/6/06 04:57 AM	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	220	Not Detected	1100	Not Detected
Freon 114	220	Not Detected	1600	Not Detected
Chloromethane	890	Not Detected	1800	Not Detected
Vinyl Chloride	220	Not Detected	570	Not Detected
1,3-Butadiene	220	Not Detected	490	Not Detected
Bromomethane	220	Not Detected	860	Not Detected
Chloroethane	220	Not Detected	580	Not Detected
Freon 11	220	Not Detected	1200	Not Detected
Ethanol	890	Not Detected	1700	Not Detected
Freon 113	220	Not Detected	1700	Not Detected
1,1-Dichloroethene	220	Not Detected	880	Not Detected
Acetone	890	Not Detected	2100	Not Detected
2-Propanol	890	Not Detected	2200	Not Detected
Carbon Disulfide	220	Not Detected	690	Not Detected
3-Chloropropene	890	Not Detected	2800	Not Detected
Methylene Chloride	220	Not Detected	770	Not Detected
Methyl tert-butyl ether	220	Not Detected	800	Not Detected
trans-1,2-Dichloroethene	220	Not Detected	880	Not Detected
Hexane	220	Not Detected	780	Not Detected
1,1-Dichloroethane	220	Not Detected	900	Not Detected
2-Butanone (Methyl Ethyl Ketone)	220	Not Detected	650	Not Detected
cis-1,2-Dichloroethene	220	1100	880	4500
Tetrahydrofuran	220	Not Detected	650	Not Detected
Chloroform	220	Not Detected	1100	Not Detected
1,1,1-Trichloroethane	220	Not Detected	1200	Not Detected
Cyclohexane	220	Not Detected	760	Not Detected
Carbon Tetrachloride	220	Not Detected	1400	Not Detected
2,2,4-Trimethylpentane	220	Not Detected	1000	Not Detected
Benzene	220	Not Detected	710	Not Detected
1,2-Dichloroethane	220	Not Detected	900	Not Detected
Heptane	220	Not Detected	910	Not Detected
Trichloroethene	220	44000	1200	240000
1,2-Dichloropropane	220	Not Detected	1000	Not Detected
1,4-Dioxane	890	Not Detected	3200	Not Detected
Bromodichloromethane	220	Not Detected	1500	Not Detected
cis-1,3-Dichloropropene	220	Not Detected	1000	Not Detected
4-Methyl-2-pentanone	220	Not Detected	910	Not Detected
Toluene	220	Not Detected	840	Not Detected
trans-1,3-Dichloropropene	220	Not Detected	1000	Not Detected
1,1,2-Trichloroethane	220	Not Detected	1200	Not Detected





AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SVE Combined INF (SP301)

Lab ID#: 0604050A-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	f040526	Date of Collection:	4/4/06	
Dil. Factor:	444	Date of Analysis:	4/6/06 04:57 AM	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Tetrachloroethene	220	Not Detected	1500	Not Detected
2-Hexanone	890	Not Detected	3600	Not Detected
Dibromochloromethane	220	Not Detected	1900	Not Detected
1,2-Dibromoethane (EDB)	220	Not Detected	1700	Not Detected
Chlorobenzene	220	Not Detected	1000	Not Detected
Ethyl Benzene	220	Not Detected	960	Not Detected
m,p-Xylene	220	Not Detected	960	Not Detected
o-Xylene	220	Not Detected	960	Not Detected
Styrene	220	Not Detected	940	Not Detected
Bromoform	220	Not Detected	2300	Not Detected
Cumene	220	Not Detected	1100	Not Detected
1,1,2,2-Tetrachloroethane	220	Not Detected	1500	Not Detected
Propylbenzene	220	Not Detected	1100	Not Detected
4-Ethyltoluene	220	Not Detected	1100	Not Detected
1,3,5-Trimethylbenzene	220	Not Detected	1100	Not Detected
1,2,4-Trimethylbenzene	220	Not Detected	1100	Not Detected
1,3-Dichlorobenzene	220	Not Detected	1300	Not Detected
1,4-Dichlorobenzene	220	Not Detected	1300	Not Detected
alpha-Chlorotoluene	220	Not Detected	1100	Not Detected
1,2-Dichlorobenzene	220	Not Detected	1300	Not Detected
1,2,4-Trichlorobenzene	890	Not Detected	6600	Not Detected
Hexachlorobutadiene	890	Not Detected	9500	Not Detected

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	113	70-130
4-Bromofluorobenzene	99	70-130

CUSTODY SEAL, INTACT  
Y/N NONE TEMP \_\_\_\_\_